

NATIONAL DREDGING NEEDS STUDY OF U.S. PORTS AND HARBORS: UPDATE 2000

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**NATIONAL DREDGING NEEDS STUDY OF U.S.
PORTS AND HARBORS: UPDATE 2000**

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Executive Summary

This report updates the original National Dredging Needs Study trade and vessel fleet information and forecasts with data through the year 2000. This new analysis has confirmed the original conclusions regarding the significance of the impacts of planned deep draft navigation dredging projects. The greatest national needs and benefits from U.S. Army Corps of Engineers channel dredging projects are for internationally traded containerized commodities. These containerized commodities are amongst the fastest growing, highest value goods imported and exported to and from the United States by sea. The number of voyages that will be constrained by channel depth limitations in the future without the completion of planned dredging projects will more than double from the number constrained in 2000.

These findings were derived from updated economic forecasts the outlook for global trade, reflecting the recovery from the 2001 global recession, is for stronger growth in 2002 and 2003 as the world economic recovery takes hold. The outlook for the economies of the world is not all positive in the near term through 2003, however, as several countries still have weak economies.

The United States is leading the world out of the recession, with continued consumer demand and inventory rebuilding by businesses leading to stronger imports in 2001. With the notable exception of Japan, the major developed country trade partners of the United States in North America, Europe and Asia are also beginning recovery and will see returns to growth in commodity trade during 2002 and 2003. Because the economic recovery in other countries is lagging that of the United States, U.S. exports will not return to growth as quickly as U.S. imports.

In the longer term, the growth in international commodity trade will reflect the growth in consumption and increased globalization of markets, but still be subject to limits of population, real income and productivity growth. In value terms, it is very unlikely that United States import growth will grow more than six percent annually, in contrast to double digit percentage growth seen towards the end of the economic boom in 2000. U.S. seaborne commodity imports will continue to outpace exports, with overall seaborne trade increasing about two percent annually, on average. In the year 2000, 1.2 billion tons of U.S. commodity trade worth over \$1.5 billion passed through U.S. ports.

By 2020, total tonnage is forecast to reach 1.8 billion tons and, in 2050, top 2 billion tons. As it has for the last four decades, the portion of total U.S. seaborne trade that is containerized will continue to increase in the future, although at a slower rate of growth in share. In tonnage terms, the average annual 50-year growth in containerized U.S. trade will be approximately 2.7 percent, with imports remaining greater than exports throughout the period. As a region, Asia will strengthen its position as the largest origin and destination region for U.S. containerized trade reaching levels where almost two-thirds of all U.S. containerized trade by 2020 will be with Asia.

U.S. tanker trade is dominated by crude oil imports now and in the future, while dry bulk and break bulk trades are going to become balanced between imports and exports by 2030 with faster growth in imports leading to a 55 percent share of tonnage by 2050.

The most significant U.S. maritime commodity groups depend on whether volume or value is used as the measure. In tonnage terms, bulk commodities such as crude oil, petroleum products, grain, oil seeds and coal are the largest commodity categories traded through U.S. ports. In value terms, the motor vehicle, metal products and apparel commodity categories are the largest, ahead of the value of crude oil and petroleum products.

The long term trade outlook for the major bulk commodities is for slow but steady tonnage growth. Rates of tonnage growth for crude oil, petroleum products, coal, grain, and oil seeds will all be slower than the average growth in trade as well as slower than overall growth in the U.S. economy. More rapid growth in tonnage growth is forecast for some relatively higher unit value commodity categories such as imports of wearing apparel, furniture and fixtures and refrigerated produce.

In tonnage terms, as a region, North America (made up of Canada and Mexico) is the largest trade partner of the United States. Asia is the second largest, but fastest growing maritime trade partner overall. In the forecast period, Asia will continue to increase in importance, taking over as the leading trade partner region by 2020. North America and Europe will lose share of total US seaborne trade. In value terms the importance of Asia to the U.S. as a trade partner region is even more pronounced because the faster growing manufactured goods trade, especially imports, are increasingly coming from Asia.

The U.S. Gulf Coast port range has the greatest share of tonnage traded due to the large volume of crude oil, petroleum products and agricultural goods that move through its ports. Over the forecast period, the Pacific Coast is expected to have tonnage growth at more than twice the rate of the Gulf Coast Ports. The Atlantic Coast will see tonnage growth at rates between that of the Pacific and Gulf Coast ports.

In the future, there will be further growth in the containerized share of many U.S. commodity categories traditionally carried on bulk or general cargo vessels. This trend will dampen the future growth in tonnage on the bulk and general cargo vessels.

International commodity flows at U.S. ports are concentrated at a few dozen ports. The top twenty ports handle almost 70 percent of total U.S. waterborne trade tonnage and 83 percent of the value of U.S. waterborne trade. Over the long term, due to the growth in U.S. – Asian trade, the U.S. Pacific coast ports will see the most rapid growth in tonnage while the U.S. Gulf coast ports will experience slower growth in tonnage due to the dominance of slower growing bulk cargoes handled at their ports.

Of the world cargo vessel fleet, the greatest tonnage capacity share is held by tanker and dry bulk vessel types. Container vessels are currently at about ten percent of the world fleet tonnage capacity (from zero 40 years ago). The general cargo vessel fleet is primarily made up

of smaller capacity vessels with the oldest average age of all cargo vessel categories. The dry bulk vessel fleet is also primarily made up of smaller capacity vessels yet the largest dry bulk vessel size categories are seeing the most rapid growth in new dry bulk vessel constructions due to the pursuit of economies of scale. Container ships are the most rapidly growing part of the world cargo vessel fleet and the most rapid growth within the containership vessel fleet are the largest containerships.

The largest vessels in the world fleet, the ultra large crude oil tankers, have vessel drafts of over 70 feet. The average draft of the largest dry bulk vessels is almost 60 feet, though there are fewer giant dry bulk vessels than there are crude oil tankers in the world fleet. The largest container vessels now have design drafts close to 50 feet, with the average design draft for the largest ones (over 5,000 Twenty-foot Equivalent Unit container capacity) more than 45 feet. Of the vessels calling U.S. ports, the design drafts of the vessels are generally in proportion to the draft distribution of the world fleet, except there are fewer of the smallest vessels of all types.

Containerships are the most frequent vessel type calling U.S. ports. This is not surprising given the regular calling pattern of containerships that are operated with several calls to U.S. ports during each voyage. Dry bulk and tanker vessels are the next most frequent vessel types calling U.S. ports, and general cargo vessels make the fewest calls at U.S. ports of all vessel classes. Container vessels and general cargo vessels are loaded to about the same sailing drafts on inbound and outbound portions of their U.S. vessel calls. In contrast, tanker vessels and dry bulk vessels are typically empty or lightly loaded in one direction, with tankers more frequently more heavily loaded inbound and bulk vessels more heavily loaded outbound.

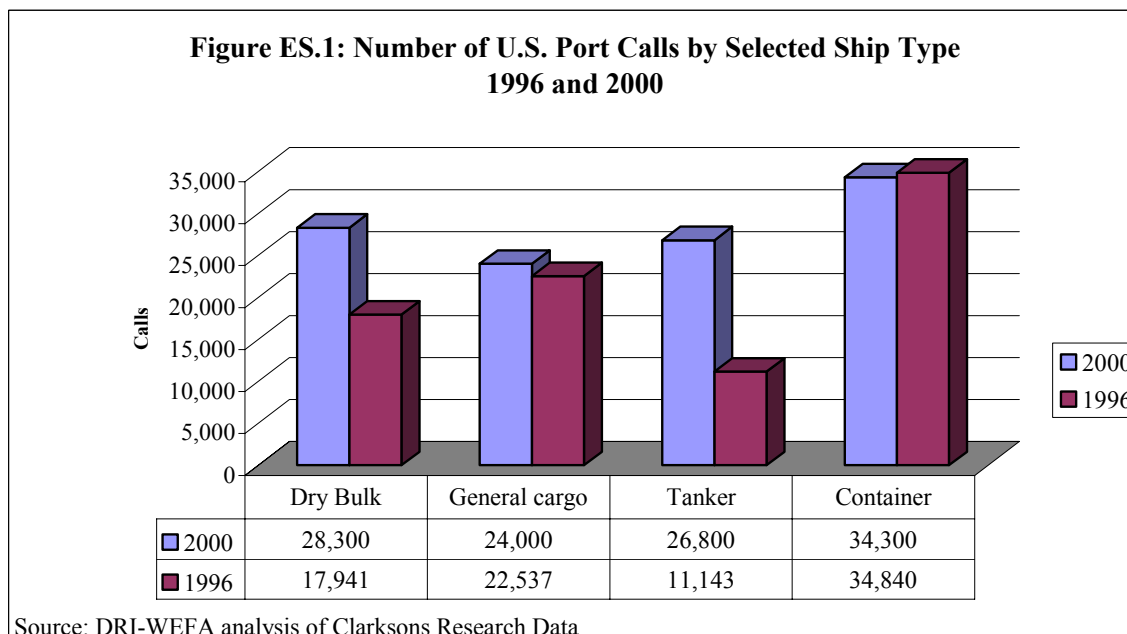
Based on the forecast growth in U.S. waterborne trade volumes, the number of vessel calls required in the future will increase. Though the increase in trade affects the calling activity of all vessel types, container ships will see the greatest increases in the number of vessel calls, with or without the completion of planned U.S. Army Corps of Engineers navigation channel projects. However, completion of the planned channel projects will reduce the number of future vessel calls that otherwise would be channel depth constrained. Containerized trade will see the greatest reduction in the number of otherwise depth-constrained vessel calls from planned deepening projects. Conversely, without the planned channel projects, the containerships will experience the greatest increases in channel depth-constrained vessel calls.

The distribution of channel depth constraints is uneven across the country. The Atlantic Coast ports today have the largest number of cargo vessel calls constrained by channel dimensions. The Gulf of Mexico ports have the next greatest number of constrained vessel calls. With planned U.S. Army Corps channel project improvements all coastal ranges will experience some reduction in the number of constrained vessel calls. However the Pacific Coast ports will see the greatest reduction in constrained vessel calls in comparison without further channel deepening projects.

This update to the original National Dredging Needs Study highlights some changes in the pattern of maritime trade flows and relevant importance of the ports, while at the same time it also indicates certain factors that have remained constant.

The major difference between the original study and the update is the more conservative outlook on the rate of growth of trade beyond 2000, with a compound annual growth rate (CAGR) of 1.91% in the period 2010-2020 as compared to 3.51% in the original study. This reduced CAGR differential remains consistent throughout the forecast period.

A review of the number of port calls at U.S. ports clearly indicates the growth achieved in the latter part of the 1990's as a result of globalization and the trade boom. This is highlighted in the illustration below:



The small drop in containership calls is due to the increasing size of vessels calling at U.S. ports, whereas the dry bulk and tanker voyages reflect the increased economic activities.

The change in the characteristics of the fleet of vessels calling at U.S. ports is highlighted in the following table comparing average vessel draft between the two periods:

Table ES.1 Draft of U.S. Calling Fleet by Selected Ship Type, 1996 and 2000 (feet)						
Vessel Type	1996			2000		
	Average	Min (ft.)	Max (ft.)	Average	Min (ft.)	Max (ft.)
Tankers	38.2	9.8	74.8	39.1	17.5	74.9
Dry Bulk Ships	36.4	10.5	76.1	37.3	22.7	60.7
Containerships	35.7	14.1	47.5	36.5	15.4	47.6
General Cargo Fleet	26.3	8.8	55.9	27.8	11.9	52.5

Source: DRI-WEFA analysis of Clarksons Research Data

The importance of the top U.S. ports remains fairly constant. The top 20 ports accounted for 83% of the value of trade in 2000 viz 83.6% in 1996. The top 50 ports accounted for 96% in

both years. In volume terms the top 20 ports increased their market share by 3.5% to 69% of the total volume of trade. The top 50 ports increased market share marginally by 1.2% to 92%.

The top 10 ports by value in the two respective studies were:

Table ES.2	
Top 10 U.S. Ports by Value, 1996 and 2000	
1996	2000
Long Beach, CA	Long Beach, CA
Los Angeles, CA	Los Angeles, CA
New York/New Jersey	New York/New Jersey
Houston, TX	Houston, TX
Seattle, WA	Tacoma, WA
Oakland, CA	Charleston, SC
Charleston, SC	Seattle, WA
Norfolk, VA	Baltimore, MD
Tacoma, WA	New Orleans, LA
Baltimore, MD	Norfolk, VA
Source: DRI-WEFA Analysis of WCSC data	

The new analysis finds that, for the U.S. as a whole, there is an average of 31.8% of the cargo vessel calls constrained without Corps projects by 2010 whereas the previous study estimated 24% of calls would be constrained. By the year 2020, the current analysis indicates an average of 30% of the vessel calls constrained without completion of planned projects compared with 25% in the original analysis.

The finding that containerized cargo and container vessels will be the largest beneficiaries of the completion of planned US Army Corps of Engineers dredging projects is consistent between the original study and this updated analysis. In the previous analysis container vessel calls that were constrained fell from 27.0% without planned Corps projects to 8.3% with completion of Corps projects in 2020. In the current analysis, container vessel calls that will be constrained fall from 39.7% without planned U.S. Army Corps of Engineers projects to 4.0% with completion of Corps projects in 2020.

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1. GLOBAL TRADE OUTLOOK

1.1 OVERVIEW OF THE GLOBAL ECONOMY

As a result of stimulative monetary and fiscal policies in some G-7 and Asian economies, especially the United States and China, the world economy is in recovery mode. These are also the countries that are leading the recovery, with the rest of the world expected to follow with 3-6-month lags. Leading indicators suggest that the European economies have hit bottom, and even Japan's economy is showing some signs of life. The Asia and Oceania region is benefiting from strong exports to the United States and the onset of a high-tech rebound, while commodity-exporting countries should get a boost from higher commodity prices.

The near-term risk to the global recovery is the escalating violence in the Middle East, which could undermine consumer and business confidence in the United States and Europe and contribute to inflation through higher oil prices. Another source of danger is a potential double-dip downturn in the United States.

Projections of world GDP growth have been revised downward and are expected to remain depressed into early 2002; new estimates are 1.3% in 2002 and 3.59% in 2003. Accordingly, expectations of growth in the world regions have lowered. Earlier signs of recovery in the United States gave hope to investors that the United States will lead the global economic rebound. GDP growth in Europe was weak in 2001, however, the most recent data, have shown some overall improvement. Japan will post another year of negative growth but the rest of Asia will stage a modest rebound. The Argentinean economy was decimated by the collapse of the currency; and growth in rest of Latin America will remain weak through 2002.

The slowdown of the United States economy and elsewhere in the global economy in 2001, had an increasingly dampening effect on the Western European region. Persistently high oil prices and high food prices during the first half of 2001 contributed to high inflation, which squeezed purchasing power. These negative factors have outweighed some relatively healthy, domestic fundamentals in most European countries, particularly widespread tax cuts. Furthermore, as the U.S. economy improves, there are some signs that the downturn could be bottoming out. In particular, overall European economic sentiment increased modestly at the end of 2001, the first rise in a year. In 2002, both business and consumer confidence improved. Meanwhile, the overall pace of manufacturing and, especially, service sector contraction eased in both 2001 and 2002.

In Japan, GDP fell at a 2.2% rate in the third quarter after a 4.8% decline in the second quarter. This puts Japan officially in a recession. These numbers follow a year of declining industrial output, falling exports, deflation, and slowing retail sales; improvement is not expected until later this year. For the rest of Asia, the worst is likely over. The region will experience a very modest recovery in 2002, before growth accelerates in 2003. The yen's recent slide has exerted pressure on Asia's other currencies, but is unlikely to cause the collapse of the fixed exchange rates in the region.

Both the political and economic situation in Argentina continue to deteriorate as the nation defaulted on its loan and devalued its currency. Although the contagion has not spread to neighboring countries, recent trade data indicate that the Brazilian economy is still weak.

Within the rest of Latin America, the most affected countries would be those that are highly dependent on trade and commodity exports

Growth in the Russian economy remains relatively strong but is decelerating due to the world economic slowdown. Deterioration in the trade balance, partly due to lower world oil prices, and slower investment expansion will hurt overall growth potential. For most of Eastern Europe, growth remains moderate despite the worsening economic situation in Western Europe.

UNITED STATES AND CANADA

United States

Surprising the financial markets, the economy advanced 0.2% in the fourth quarter of 2001. Since this is the first estimate of fourth-quarter economic growth, the figure is subject to future revisions. There is always a chance that the 0.2% growth could switch below zero in next month's estimate. However, for the time being, the first estimate has ruled out a U.S. recession, based on the original definition of at least two consecutive quarterly contractions as a recession. It also indicates that the worst might be over for the U.S. economy. In the fourth quarter, consumption and government spending helped push the economy into positive territory. Less drastic declines in exports also helped. Meanwhile, weak investment remained the major drag.

Consumption posted a 5.4% gain in the fourth quarter, after 1.0% growth in the previous quarter. Auto sales accounted for most of the increase, pushing consumption of durables higher by 38.4%. Meanwhile, consumption of nondurables and services posted minor gains of 0.9% and 1.6%, respectively. Car buyers have been attracted to the 0% financing, with the impact of weak labor market conditions showing up in other purchases. Consumers have been looking for major price cuts when they shop. Job uncertainty has forced some households to keep their wallets tight. Recent rebounds in consumer confidence indicate that consumers are increasingly optimistic about the future economy. At the same time, they remain cautious about current economic conditions. In other words, real consumption will remain soft in the near term.

Government spending also helped the rebound in output growth, posting a 9.2% increase. This increase is not limited to federal spending, which posted a 9.5% increase. State and local governments saw spending increase by 9.0%.

For the whole year, the economy advanced 1.1%, much slower than the 4.1% growth posted in the previous year. Much of that growth was concentrated in the first half of the year. Strong consumption and the run-up in government spending were the major contributors, helping to offset sharply declining investment and trade. The overall price index rose 1.7%, as inflationary pressure softened in a slumping economy. In 2000, the corresponding price index advanced 2.6%. Looking ahead, our outlook for 2002 remains relatively the same. The economy is expected to remain weak in the first half of 2002, but it will rebound to a 4.0% growth rate by the end of this year.

Canada

The principal cause of the recession both in Canada and the United States was massive over-investment in information-technology sector during the second half of the 1990s. The bursting of the high-tech bubble on stock markets had adverse effects both on corporate finance, and on household balance sheets. Consumer spending was dampened, but business investment collapsed. This type of investment-led cycle has not occurred since the 1930s. In addition, Canadian exports declined throughout 2001 and inventory liquidation was a major drag on the economy. The slowing economy and a dramatic worsening in the terms of trade took a bite out of corporate profits. As the global recession broadened and deepened in 2001, commodities came under severe selling pressures, and commodity-linked currencies, like the Canadian dollar, took a hit.

The Canadian economy is now in the early stages of recovery. Real GDP growth for the third quarter was -8% annualized and that of the fourth quarter is expected to be close to 0%. This quarter (Q1 2002) is expected to show slightly positive growth. The optimism regarding a pick-up to positive growth for Q1 2002 is based on signs of recovery in the US. Canadian fiscal and monetary policy will be supplementary to the recovering US economy, as drivers of recovery in Canada. Each successive quarter is expected to be stronger, culminating in a growth rate of about 5% for the final quarter of this year. The Canadian economy is expected to grow 1.1% in 2002 and 3.9% in 2003.

The unemployment rate has been increasing since August and reached 8% in December. It is forecast to stay near the 8% level for several more months before turning down in Q4 2002. Inflation is well in hand, with the CPI escalating at a .7% rate on a year over year basis in December 2001. Given the uncertain prospects for recovery, the Bank of Canada's 25 basis point reduction of January 15 was certainly justifiable. The Canadian dollar has hit all time lows on several occasions over the past week. The depressing impact of global recession on commodity prices, coupled with the financial crisis in Argentina hitting high-debt countries such as Canada, have been contributing factors.

Indicators received over the past month have been slightly more promising than anticipated in the most recent forecast of early December 2001. The low point of this economic cycle, September 2001, is already four months in the past.

EUROPEAN UNION

European economic activity weakened significantly in 2001, pushing the economy to the brink of recession. GDP growth in the Eurozone, the countries of the European Union and Western Europe, on a quarterly basis was a mere 0.1% in the third quarter of 2001, the same as in the second, and down from 0.6% in the first quarter. The annual growth rate has slowed from 2.5% in the first quarter to 1.6% in the second and 1.4% in the third quarter. This was the weakest annual growth rate since second-quarter 1996. Indeed, only a positive contribution from net trade prevented third-quarter GDP from being even weaker. In the third quarter, consumer spending grew modestly, investment contracted again and inventories were not replaced.

It is possible that GDP contracted in the fourth quarter, as the negative economic repercussions of the September 11 terrorist attacks on the United States took hold. However, the most recent data, although mixed, have shown some overall improvement, indicating that the downturn

may now be bottoming out and actual recession may be avoided. Overall GDP growth in European Union countries in 2001 is estimated around at 1.6%.

Consumer spending is expected to benefit from moderate inflation, low interest rates and modestly higher pay increases. Assuming that the global economic outlook brightens as recovery develops in the United States over the first half of this year and then gains significant momentum in the second, improved confidence should make consumers more willing to spend their tax cuts of 2001 and 2002. In addition, strengthening overseas markets later in the year and a still competitive euro should lead eventually to a substantial recovery in export growth.

ASIA

The worst of Asia's slump is over. The region will experience a modest recovery in 2002, before growth accelerates in 2003. The yen's recent slide has exerted pressure on Asia's other currencies, but is unlikely to cause the collapse of the fixed exchange rates in the region.

There are signs that Asia's downturn has bottomed out. In 2001, contraction of the region's industrial output decelerated from July's 6.9% to October's 4.6%. Additionally, the drop in Asia's exports also moderated, from 15.3% in September to 12.9% in October and 11.6% in November. The improvement in November's export figures proves that the October moderation was not solely due to a return to normalcy after the September 11 attacks. More encouragingly, import orders from the United States—Asia's biggest export market—suggest that the worst of Asia's export decline could indeed be over. After November's nearly 8% jump in the import component of the U.S. National Association of Purchasing Managers' index, the index bounced up again in December, by 2%.

In most Asian countries, the main engine of recovery will be exports. With the U.S. economy rebounding only modestly in 2002, Asia's export expansion should be limited. Moreover, export growth will also be constrained by the Japanese economy's continuing contraction in 2002. Although Japan's importance as an export market for the rest of Asia has diminished, the country still buys more than 10% of the region's exports.

Asia is expected to recover this year, but only modestly. Only the economies of India, South Korea, and China are expected to expand more than 3% in 2002. Stronger momentum in domestic demand gains in India and South Korea will help their 2002 GDP growth accelerate to 5.5% and 3.7%, respectively. China's economic growth will decelerate from 7.3% in 2001 to 6.7% in 2002. Domestic demand there will at best remain steady as Beijing pushes forward with structural reforms; net exports will be adversely affected because of the WTO membership-induced import growth.

For Australia, Indonesia, Malaysia, New Zealand, the Philippines, and Singapore, 2002 economic growth will hover in the 2-3% range. Hong Kong, Taiwan, and Thailand will be underperformers this year because domestic demand will be unable to provide any significant lift. Hong Kong's currency board will keep real interest rates high; Taiwan's structural banking problems plus its ongoing shift from a manufacturing-dominant to a service-based economy will restrain investment and consumption; and Thailand's large bad-loan ratio and tight monetary policy will dampen domestic demand.

LATIN AMERICA

The Brazilian economy remained weak by the end of 2001 and has not made any progress during the first part of January. In fact, recent trade numbers are indicating that the economy may still be suffering from world recession and from the regional slump in economic activity.

Mexico, on the other hand, is suffering its own version of the US economy slowdown with the maquiladora industry the most affected sector in the domestic economy. The Mexican economy has lost approximately 550,000 jobs since the slump started at the end of 2000. Most of these jobs were lost in U.S. border towns where the maquiladora industry serves US businesses. However, observers are optimistic that the Mexican economy will rebound as soon as the economy in the US starts to pick up, that is, by the middle of 2002

In the Andean region the conditions are not different than in the rest of the Latin American region. Venezuela is facing a tough year. The country's already-struggling economy stands to deteriorate as political uncertainty remains high and business confidence reaches new lows. The devaluation of the bolivar and this year's huge fiscal gap will prevent any economic growth this year. It is expected that the exchange rate will depreciate between 30% and 50% this year, causing the temporary collapse of the economy. Inflation should increase substantially this year as a result of the depreciation, thus lowering real income and private consumption. On the positive side, the devaluation of the bolivar will prevent the current account from turning into a deficit this year, and thus international reserves should not reach a critical point. An unexpected increase in oil prices, due to a war in the Middle East, could improve the economic scenario in 2002.

In Ecuador, the decision to fully dollarize the economy has had positive effects on economic activity and has reduced the instability of the monetary sector in the country. While a full dollarization is perhaps second best to having its own currency the Ecuadorian economy was the highest growing economy in Latin America during 2001. Investment flows returned to the country as a consequence of the dollarization of the economy and this has turned economic activity around. While it is early to say whether dollarization will be the solution for the country's problems the country has been able to distance itself from the currency problems that affected the other countries of the region during 2001.

The Peruvian economic recovery remains weak. President Toledo is facing tough decisions and high expectations with his government and Peruvians are losing patience with him. This is especially true for peasant movements and the indigenous population of the country. The economy is recovering but at very slow pace and economic benefits are not trickling down to the most needy groups.

The Chilean economy, on the other hand, remains the most stable in Latin America. With growth expected at 3.3% during 2001 and at 3.4% in 2002 the country remains at the top of growth performance in the short to medium term. While the economy suffered one of the worst years in terms of the depreciation of the domestic currency, that depreciation was able to insulate the domestic economy from the malaise occurring in neighboring Argentina. Nevertheless, Chilean businesses will be considerably affected by the Argentine debacle due to that country's investments in Argentina during the second part of the 1990's. This is especially true for Chilean retailers such as Fonabella, supermarket chains, and other investments in the

country. However, the Chilean economy is expected to fully recover from any negative effects of the Argentine crisis and to continue to grow at high rates in the foreseeable future.

The Uruguayan economy is a different story. Its close ties to the Argentine economy make it extremely vulnerable to the Argentine malaise. While Argentine capital flows into the country whenever there are problems, the real sectors of the Uruguayan economy are negatively affected. Nevertheless, that new opportunities or newly reopened markets in Europe should enable the Uruguayan economy to limit or minimize the effects of Argentina's malaise.

RUSSIA

In 2000, the Russian economy posted the strongest growth since market transformation began in 1992. GDP expanded 8.3%, almost three percentage points faster than in 1999, on the back of high world oil prices and a cheap ruble. Exports surged in nominal prices, both in dollars and in rubles, although they rose only slightly in real terms. The increased export revenue stimulated domestic demand. Through the first three quarters of 2001, GDP growth decelerated, but remained strong, at 5.0% from the previous year. The economic slowdown was largely due to a deterioration of the surplus of foreign trade, caused by falling world oil prices and the strengthening of the real ruble in 2001. Trade deterioration, partly due to lower world oil prices, and slower investment expansion will hurt overall growth potential.

The Central Bank of the Russian Federation (CBR) recently published its estimated current account balance for 2001. According to the estimate, the current account posted a surplus of \$34.2 million for the year as a whole, down 26.1% from 2000. The surplus-to-GDP ratio using this estimate equals about 11.1%. Exports dropped 2.7%, hurt by falling oil prices, and imports rose 18.3%. The surplus will shrink in the medium run because of relatively strong domestic demand and the ruble's real appreciation. In 2002, it may deteriorate more than previously expected, with the surplus-to-GDP ratio dropping to near 8%, due to the worsening global economy. By 2006, the surplus-to-GDP ratio will be down to about 4%, still relatively high.

Russia's economic fortunes depend heavily on world commodity prices, especially those of oil. The recent fall of oil prices, and their expected future decline, are not substantial enough to seriously damage Russia's growth prospects. If prices fell more significantly, however, economic growth could stall, the real ruble would weaken, budget execution would become problematic, and Russia's ability to service its debt would be endangered.

The worsening global economic outlook, along with the recent crisis in Argentina, will make investors less inclined to put money in relatively risky, transitional countries, such as Russia. A loss of investment would slow overall growth and might weaken the ruble.

EASTERN EUROPE

Several East European countries have recently released third-quarter GDP figures. In general, economic growth remains moderate despite the worsening economic situation in Western Europe. The Hungarian, Czech, and Slovak economies posted growth rates ranging from 3.2% to 3.7% on a year over year basis in the third quarter. Not counting Macedonia, which suffered from an armed conflict last year, the only East European country that is close to a recession is Poland, mainly because of its tight monetary policy. In the third quarter, the Polish economy grew only 0.8%. In all of 2001, it is estimated that East European GDP grew about 3%, a slight

slowdown compared to 3.7% growth in 2000. Economic expansion will be roughly the same in 2002 as it was in 2001. Growth will pick up in 2003.

One of the reasons why the region is still growing is that market transformation created strong growth potential. Also, some regional economies are expanding from a low base. After market transformation started in the late 1980s and early 1990s, GDP declined about 30% over several years. Although many countries, such as Poland and Slovenia, already reached their pre-transition GDP levels, a large part of the region is still recovering from the recession caused by the transition. For Eastern Europe as a whole in 2001 GDP was only about 11% above 1990 levels.

East European exported goods have become quite competitive in Western markets in the past several years. Export growth did decline in most countries of Eastern Europe and last year. However, in most countries, exports continued to grow at a strong pace. Moreover, in several key countries, such as the Czech Republic and Poland, exports actually increased faster last year than in 2000. In U.S. dollar terms, Czech merchandise exports increased 15.2% y/y in the first three quarters of last year, up from 10.6% in 2000. Polish exports grew 8.9% in January–November 2001, 1.6 percentage points faster than in all of 2000.

MIDDLE EAST

For Middle Eastern countries, the most direct and immediate effect of oil prices is a slow down in economic growth. Real GDP growth in the Gulf will average 2.95% in 2002 compared to 3.66% in 2001. In Saudi Arabia, where oil accounts for 47% of GDP, growth in the medium term will be strictly driven by conditions in the oil market. Growth in the non-oil sector is modest, but showing some improvement over the long term. Although some of the revenue from the past two years will contribute to this year's growth by filtering through the private sector, a significant amount of the surplus has been used to pay off government debt. Both recurring expenditures and project expenditures will be curtailed due to reduced government proceeds. The current account surplus will shrink due to lower exports caused by lower oil prices. The continued parity with the dollar will help Saudi Arabia maintain a tight monetary policy and continued low inflation.

Instability in relations with the Palestinians, political uncertainty, and acceleration in the slowdown in the rate of world economic growth, will all contribute to lackluster growth in the sub-region. Despite recent attempts at reviving the peace process, it is still in a virtual stalemate. Sub-regional growth in 2002 will average only 0.80% before improving to 3.4% in 2003. Tourism has virtually collapsed in Israel registering over a 50% decline. Foreign direct investment is drying up. Real GDP growth in Israel will average only 0.1% in 2002 and the unemployment rate will remain high during the same period.

AFRICA

Although North Africa is currently outperforming all other subregions, the rate of growth in real economic activity will decline from 4.5% in 2001 to 3.4% in 2002. Egypt's potential over the medium to long term remains promising, but the combined effects of a weakening world economy and regional instability will dim short-term prospects. The tragic terrorist attacks of September 11 have depressed oil prices and the global tourism industry, a double whammy for Egypt. The tourism industry in Egypt, even prior to the terrorist attack, was experiencing some

negative spillover effects from the violence in the Levant. Official sources indicate that tourism arrivals fell to 372,000 in September 2001 from 506,000 in August 2001. Tourism in Morocco and Tunisia will also be affected, though to a lesser extent than in Egypt. In Algeria, increased government spending will push growth to 4.4% in 2002. On a more positive note, consumer inflation for the subregion is in single digits and will continue to decelerate over the short-term.

Growth in most sub-Saharan African countries is largely driven by non-oil commodity prices.

These prices, particularly of the agricultural sub-sector, have generally declined in 2001.

According to recent estimates, non-oil commodity prices will not stage any significant recovery until the latter half of 2002, due largely to the recent terrorist attack and the resulting weakness in the global economy. Similarly, growth in most sub-Saharan African countries will not gain momentum until the end of 2002. The gains resulting from cheaper oil prices will, therefore, be offset by lower prices for other commodities. The flow of foreign direct investment will also be reduced.

1.2 GLOBAL TRADE OUTLOOK

In 2001, as a result of the global economic slowdown, world trade slowed considerably. Measured in current U.S. dollars, world trade growth was 1% in January, and then steadily declined to a negative number in September on a year over year basis. In nominal dollar terms, world commodity trade in 2001 is estimated to have declined by 2% below 2000 levels. However, because of substantial drops in energy and IT prices, the quantity of trade actually increased modestly, with a 0.5% increase in commodity tonnage trade in 2001.

In 2001, world real GDP grew less than 1.5%. Before the September 11 terrorist attacks, the estimate was that the U.S. economic adjustment would be complete by the end of 2001 or the beginning of 2002, with the subsequent resumption of economic growth. The terrorist attacks caused a reduction in consumer confidence and effected a significant change in the economic outlook. However, pessimistic expectations had the effect of accelerating the rate at which firms were eliminating unprofitable operations. Low interest rates are encouraging investors to pursue profits through renewed investments. As a result, the U.S. economy is now showing signs of a rebound.

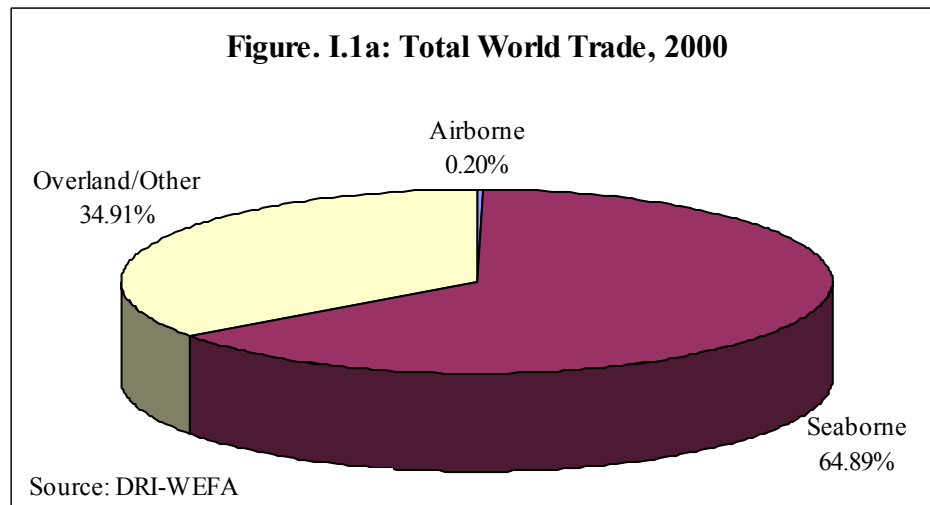
When the U.S. economy contracts, countries with tight economic links to the United States are negatively affected as well. In countries such as those in Europe and Asia, where the social system makes it more difficult for firms to lay off workers, economic adjustment is slower than in the United States. Therefore, although the economic adjustment has basically been completed in the United States, it is ongoing in other countries. Generally, in 2002, real GDP growth in industrialized countries will be slightly lower than in 2001. For the world as a whole, real GDP growth will barely reach 1.5%.

Compared to real GDP growth, the outlook for international trade in 2002 is much better. Although trade activity is supported by GDP creation, it does not work at the same pace and in the same way. When the economy is heading down, households usually put a brake on spending and firms usually cut capital goods investment, accelerating the decline of trade volume. When the economy is heating up, households usually release spending and firms usually expand capital goods investment, so the growth of trade volume is also accelerated. In 2002, although world real GDP growth will not be much higher than in 2001, its trend is heading up. Therefore, world trade in real terms can grow by 3% in 2002.

International trade will recover in the second half of 2002. Investment is expected to be based on more sober estimates of demand rather than on overly exuberant speculation. That means, in real terms, that U.S. import growth can hardly be higher than 6% in the foreseeable future, which is in sharp contrast to its double-digit growth in recent years.

Imports of goods into Western European countries will stagnate in 2002 since economic recovery is still taking place. Because Japan's economy is still in recession, its imports will decline. The problem with Japan's economy is a persistent trend of losing overall advantage to both developed and developing countries in capital and consumer goods exports, not a temporary structural imbalance. Consequently, Japan's share in world total goods exports has been steadily declining since the mid-1980s. China remains a bright spot in economic growth, and the country's imports in 2002 could grow 7% in real terms, matching its income growth and the ambitious expansion of its western regions. But China's exports cannot grow very much, despite the country making efforts to open new markets, such as in Russia and India.

Oil price spikes can hamper world economic growth. The world in general, and the U.S. in particular, will benefit from Russia's significant entrance into the oil market. Russia's strategy for utilizing its oil reserves is different from OPEC --it will not necessarily go along with production cuts and will therefore create more strategy in world oil prices. Accordingly, oil prices should stay at about the same level as in 2001, with world trade not deviating from the forecast.

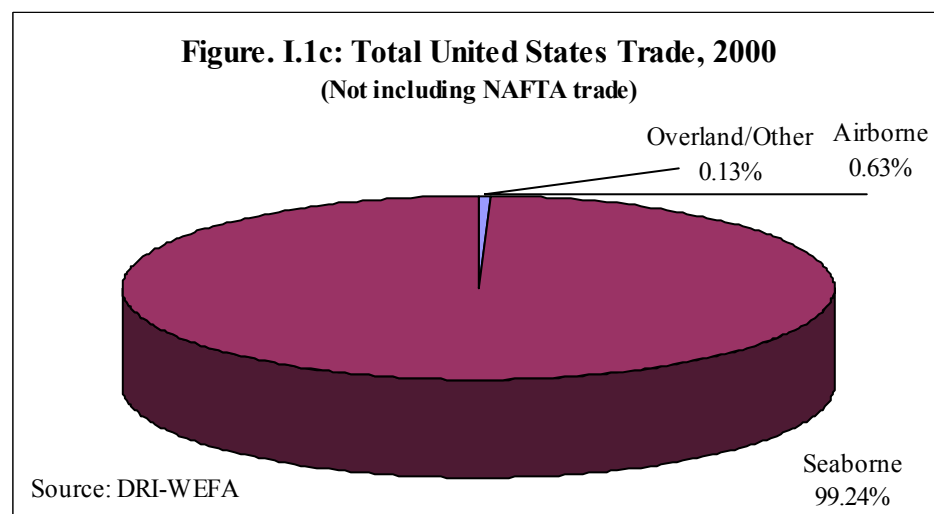
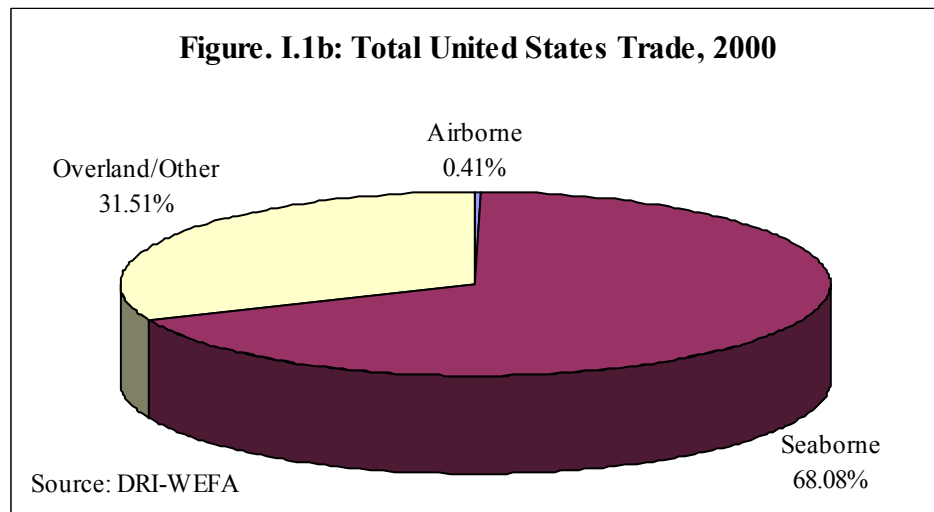


In the short term, in the wake of recession, the global economy will be tested by its ability to create positive growth while balancing transparency between nations and increased security and regulation. In the long run, as countries continue to open their borders to the movement of goods and services, and as rules of international law are developed to protect and regulate international exchange, total world trade will continue positive growth at a rate above basic economic growth.

In 2000, total tonnage shipped on the open seas (not including inland transport) exceeded 5 billion tons. It had been growing at a 4.8% annual rate over the previous five years. In 2001, total sea trade grew at only 0.7% in the face of the world recession. After 2002, however, world sea trade should recover along with total trade.

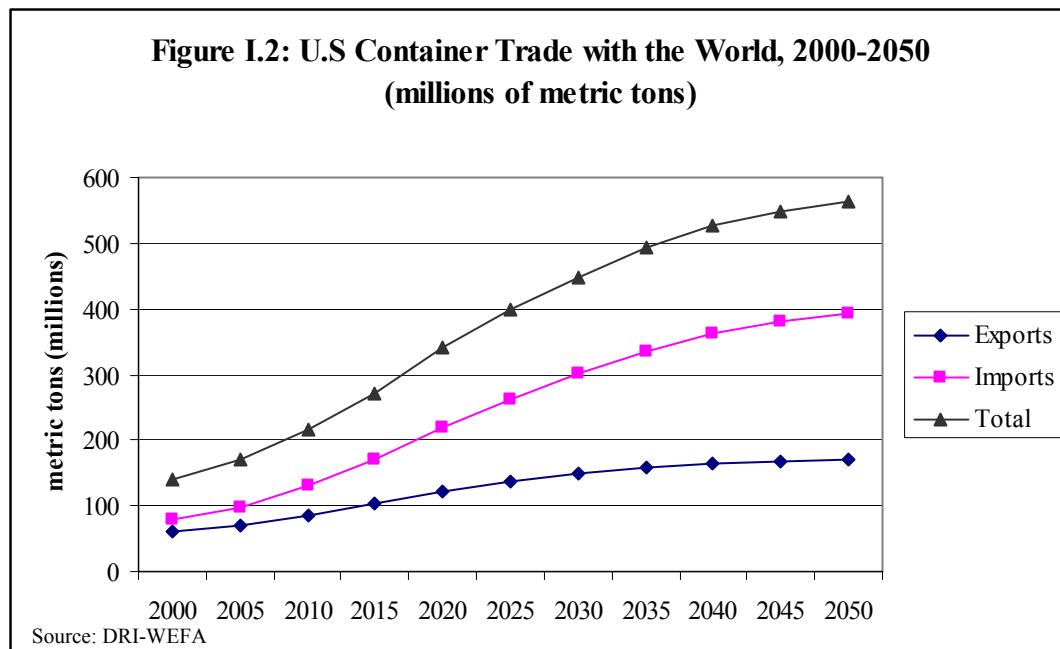
Overall, forecasts indicate that by 2005 annual growth rates for U.S. seaborne trade should settle to somewhere around 2%. After recovering from recession in early 2000, world sea trade is expected to continue growing at about 2% per year through 2025, after which the average rate of growth drops off to less than 1% per year. Imports continue to grow at a faster rate than exports, capturing over 65% of the total U.S. international goods trade. By the year 2050, U.S. imports grow to 70% of all U.S. international trade.

Figures I-1a and I-1b demonstrate the relative importance of sea trade to total world and total United States trade. The graphs show that, in terms of tonnage, seaborne trade contributes the largest portion to international trade, over 68%. Figure I-1c demonstrates, when intra-North American trade is removed from the picture, the important contribution of sea trade to United States total international trade.



1.3 US CONTAINER TRADE: 2000-2050

The world trading system has moved more and more goods into containers over the last 40 years. It is expected that this trend will continue, albeit at a slightly slower rate. This growth is directly and positively related to the ability of ports to accommodate this type of trade. In 1995, the percentage of tonnage traded by sea that was containerized was about 9.4%. The forecast predicts that this rate of market penetration will grow to 25%. Figure I.2 displays projections of the import and export share of the U.S. container trade through the year 2050. As mentioned earlier, the U.S. will continue to run a current account deficit. Imports continue to grow at 4% per year, a rate that is almost two times that of exports. However, neither amount of growth is insubstantial, particularly considering that overall rates of sea trade growth hovers around 1.5%.



Although container trade will not increase as rapidly towards the end of the forecast period as in the shorter term, container trade will nevertheless continue to grow significantly through 2050. By 2050, container trade is expected to increase from 157 to 530 million metric tons, an average annual growth rate of approximately 2.7%.

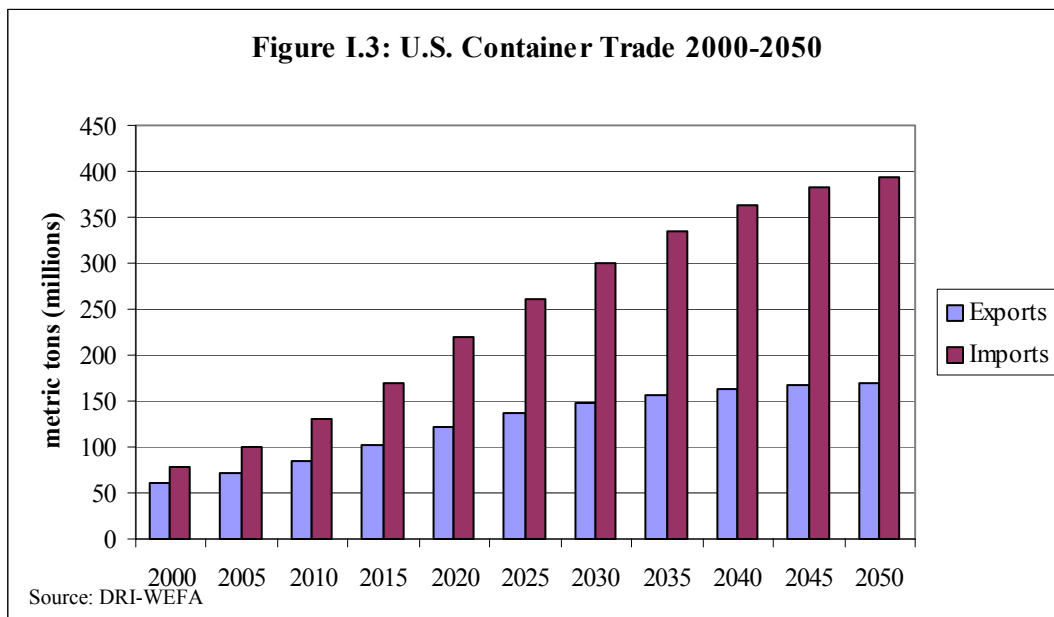
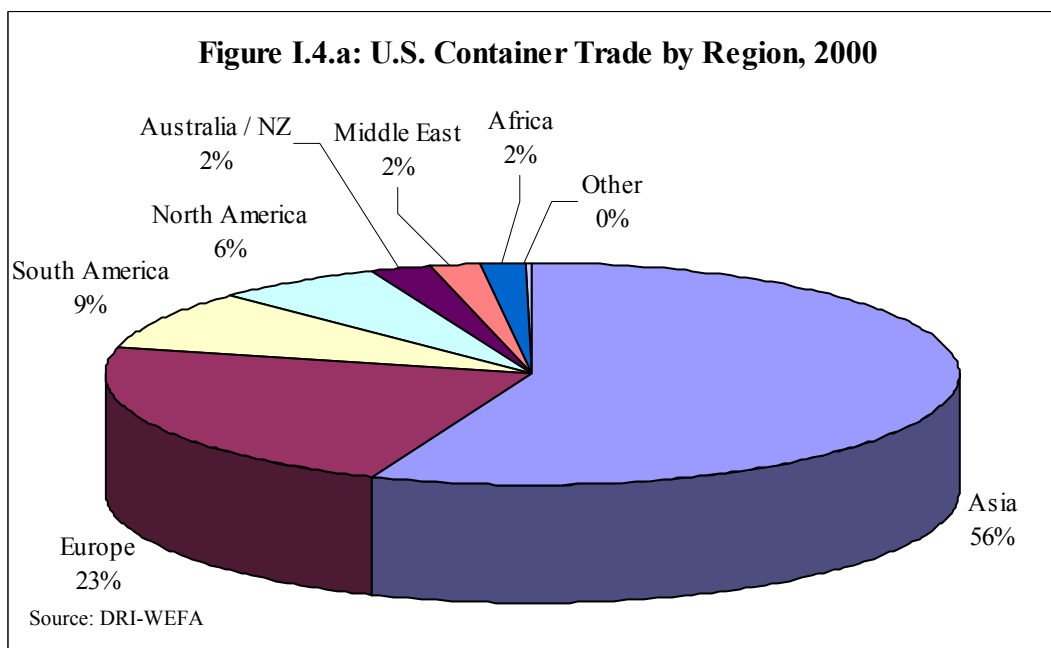


Figure I.3 demonstrates the increasing disparity between containerized U.S. imports and exports over the course of the forecast—the dominance of imports over exports should continue to increase over time. In general, there is a close relationship between regional economic development and the growth of container trade. The strong growth that is evident in the forecast can be partially attributed to the importance of developing nations in Africa, the Middle East, South America, and Asia. As economic conditions in developing countries improve, the enriched populations will consume more manufactured goods that are traditionally transported by containership. Further, resource demand will increase and positively effect exports from resource rich countries, such as the U.S. Of all these nations, the levels of growth predicted for Asia are by far the most substantial.



In the related diagrams, figures I.4.a and I.4.b, the dominance of Asia in the U.S. containerized goods market is clearly demonstrated. This is in large part due to the increased demand that is expected to result from a liberalization of China's economy under the auspices of the WTO. Japan's contribution to the U.S. goods market is expected to reach a plateau as the returns to the additional utilization of the island nation's resources begin to diminish. Table I.1 allows a side-by-side comparison of metric tonnage and market share. Today about 55% of trade originates from Asia, and over the forecast period this is expected to grow to over 70%. Following this scenario, over time both Europe's and South America's share of the U.S. market will decrease.

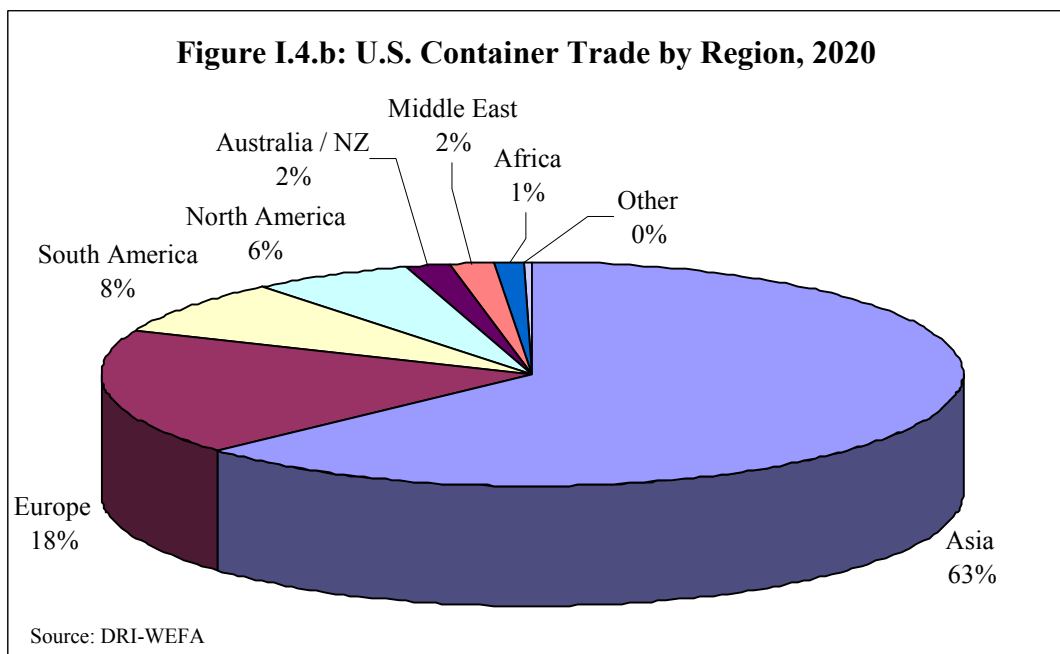
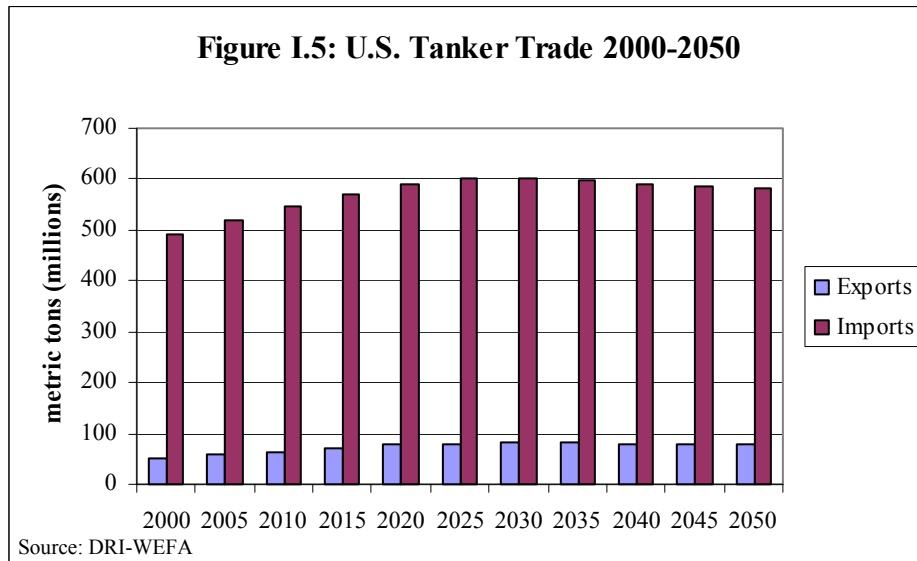


Table I.1 Projected Inbound and Outbound Containerized Tonnage By Region, 2000-2050 (Millions of metric tons)									
Inbound	2000		2010		2020		2050		Annual Growth
Asia	43.1	55.1%	77.0	59.5%	141.5	64.4%	281.8	71.7%	3.8%
Europe	19.9	25.5%	28.7	22.2%	40.6	18.5%	53.0	13.5%	2.0%
South America	6.9	8.8%	11.0	8.5%	17.6	8.0%	28.3	7.2%	2.8%
North America	4.6	5.8%	7.4	5.8%	12.4	5.6%	19.8	5.0%	2.9%
Australia / NZ	1.8	2.3%	2.4	1.8%	3.1	1.4%	3.8	1.0%	1.6%
Africa	1.0	1.3%	1.4	1.1%	2.0	0.9%	2.6	0.6%	1.8%
Middle East	0.7	0.9%	1.1	0.9%	1.7	0.8%	2.5	0.6%	2.4%
Other	0.3	0.3%	0.4	0.3%	0.8	0.4%	1.4	0.4%	3.4%
Total Imports	77.9	100%	129.5	100%	219.7	100%	393.1	100%	3.2%
Outbound	2000		2010		2020		2050		Annual Growth
Asia	34.8	57.1%	50.6	59.2%	74.4	60.9%	106.9	62.8%	2.2%
Europe	12.1	19.9%	16.0	18.7%	21.4	17.6%	27.0	15.9%	1.6%
South America	5.0	8.3%	6.6	7.7%	8.9	7.3%	11.8	6.9%	1.7%
North America	4.1	6.7%	5.8	6.7%	8.4	6.9%	12.6	7.4%	2.2%
Middle East	1.8	3.0%	2.6	3.0%	3.7	3.0%	5.3	3.1%	2.1%
Australia / NZ	1.6	2.7%	2.1	2.5%	2.8	2.3%	3.6	2.1%	1.6%
Africa	1.2	1.9%	1.5	1.8%	2.1	1.7%	2.6	1.5%	1.6%
Other	0.2	0.4%	0.3	0.3%	0.4	0.3%	0.4	0.2%	1.3%
Total Exports	61.0	78%	85.5	66%	122.1	56%	170.2	43%	2.1%
Total Trade	2000		2010		2020		2050		Annual Growth
Asia	77.9	56.1%	127.6	59.4%	215.9	63.2%	388.7	69.0%	3.2%
Europe	32.0	23.1%	44.7	20.8%	62.0	18.1%	80.0	14.2%	1.8%
South America	11.9	8.6%	17.6	8.2%	26.5	7.8%	40.1	7.1%	2.4%
North America	8.7	6.2%	13.2	6.1%	20.8	6.1%	32.5	5.8%	2.6%
Australia / NZ	3.6	2.6%	5.0	2.3%	6.9	2.0%	9.1	1.6%	1.9%
Africa	2.7	1.9%	3.5	1.6%	4.8	1.4%	6.2	1.1%	1.7%
Middle East	1.9	1.4%	2.7	1.2%	3.8	1.1%	5.1	0.9%	2.0%
Other	0.5	0.3%	0.7	0.3%	1.2	0.3%	1.8	0.3%	2.7%
Total Trade	138.9	100%	214.9	100%	341.8	100%	563.3	100%	2.8%
Source: DRI-WEFA									

1.4. US TANKER TRADE: 2000-2050

The outlook for tanker, or liquid bulk, is heavily dependent on U.S. trade in petroleum and related products, specifically U.S. demand for crude petroleum. Currently, crude petroleum accounts for over 75% of U.S. tanker trade.



In the extended forecast (2025-2050), owing to increased fuel efficiency, competition from natural gas, increased foreign refining, and other changes motivated by new technologies, U.S. demand for petroleum is expected to decrease. Despite the difficulties inherent in forecasting petroleum output, forecasts still predict that world output will peak around 2030.

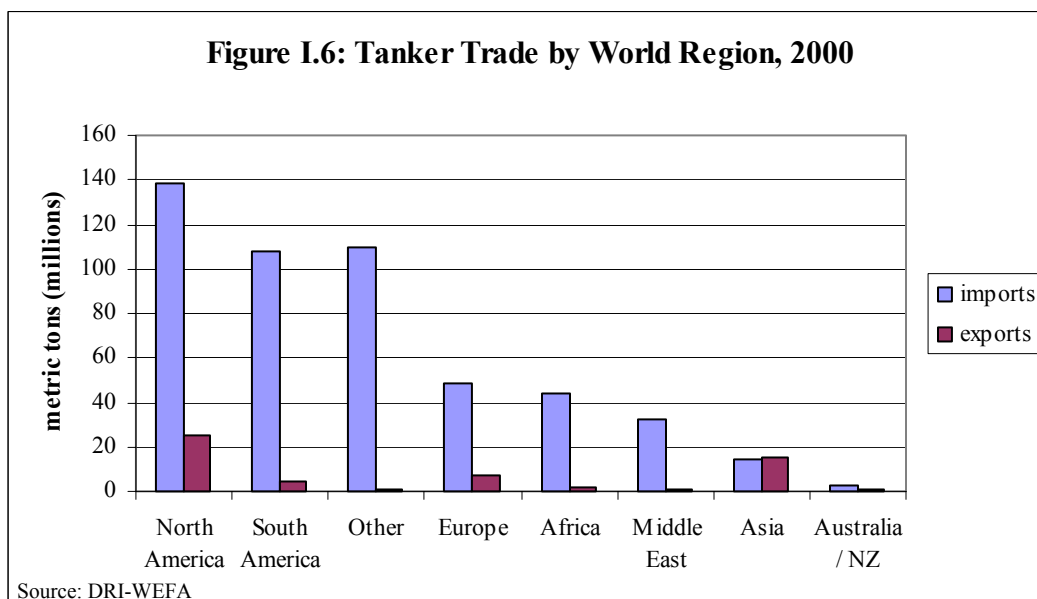


Figure I.8a U.S. Tanker Trade by Region, 2000

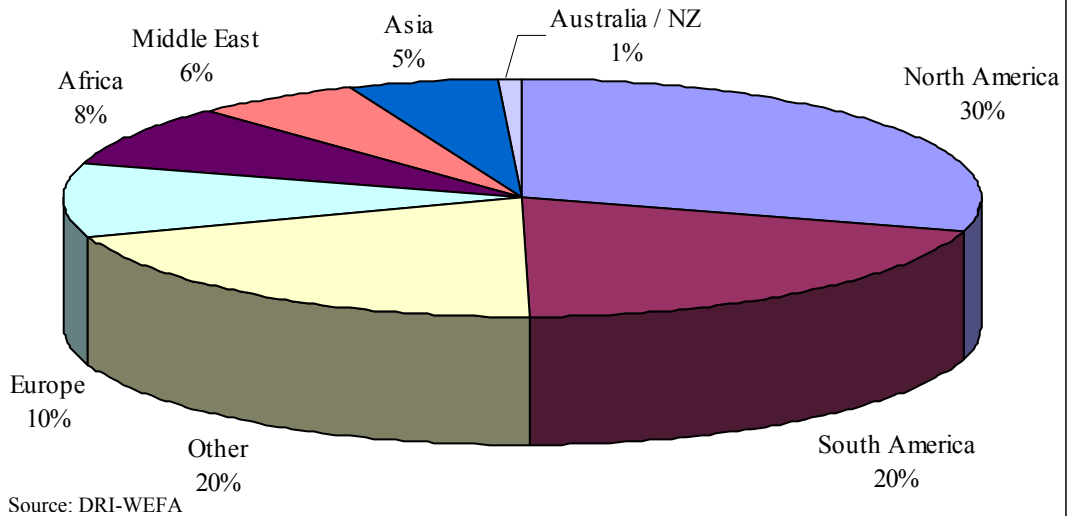
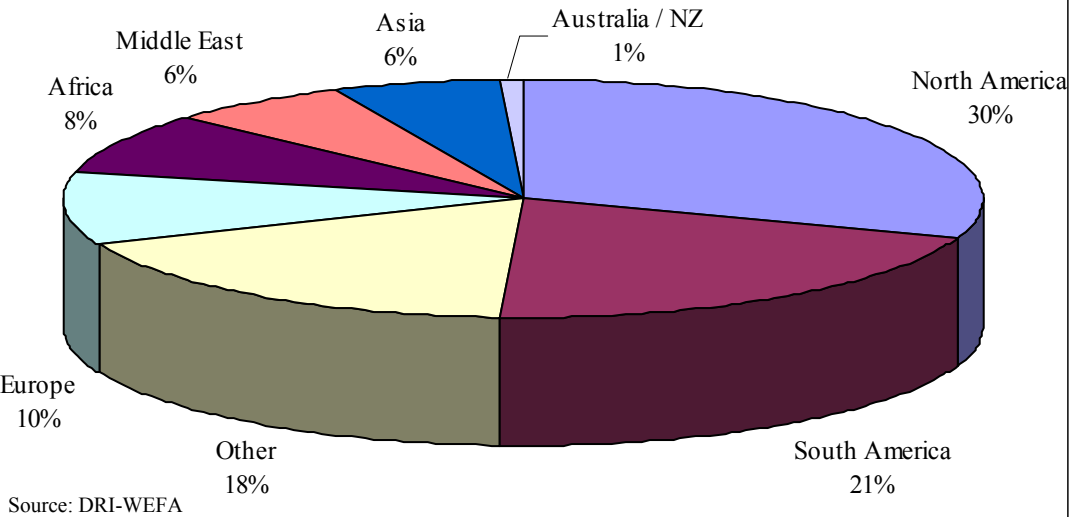


Figure I.8b U.S. Tanker Trade by Region, 2020



Principle sources of inbound tanker trade continue to be South America, Canada, Mexico, and Africa. As the U.S. becomes less dependent on crude oil imports, the Middle East is expected to become less important with respect to tanker imports in the long term. The graphs illustrate a shift in market share towards North America (Mexican exports to U.S.), South America, and Asia. Table I.2 compares tonnage and market share between 2005 and 2050. Once again, the trend of growth through the developing countries is evident.

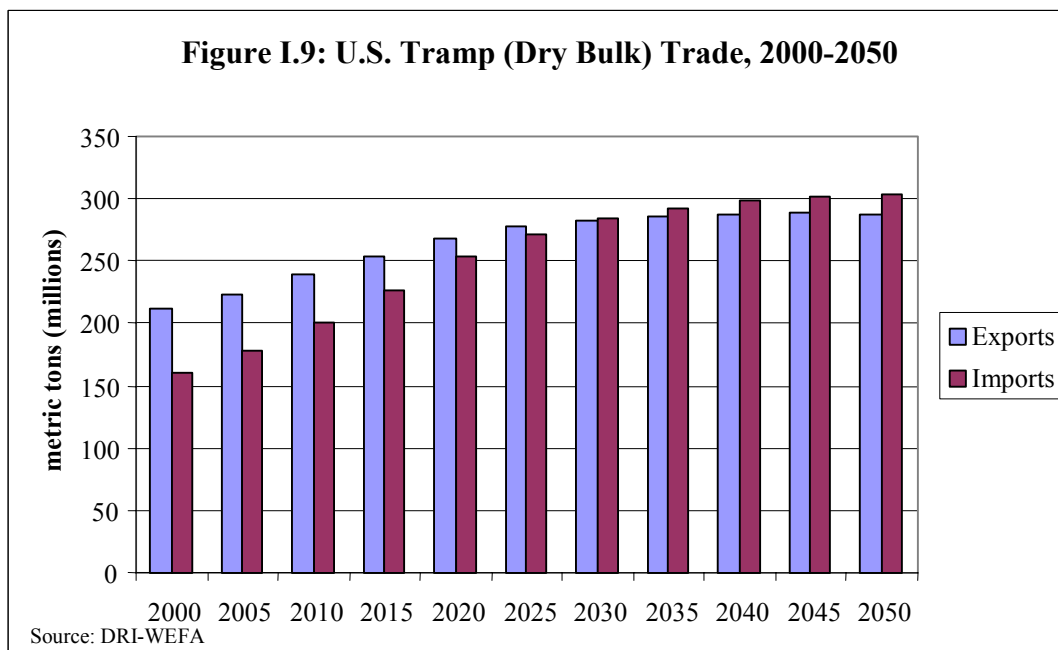
Table I.2 Projected Inbound and Outbound Tanker Tonnage By Region, 2000-2050 (Millions of metric tons)									
Inbound	2000		2010		2020		2050		Annual Growth
North America	138.3	36%	153.2	35%	165.5	34%	162.0	34%	0.3%
South America	108.1	28%	123.1	28%	136.1	28%	140.0	29%	0.5%
Europe	48.2	12%	54.4	12%	59.0	12%	57.4	12%	0.3%
Africa	44.0	11%	49.4	11%	53.4	11%	52.3	11%	0.3%
Middle East	32.2	8%	37.3	9%	42.8	9%	44.8	9%	0.7%
Asia	14.3	4%	16.9	4%	19.4	4%	20.9	4%	0.8%
Australia / NZ	3.1	1%	3.6	1%	4.2	1%	4.7	1%	0.9%
Other	109.9	28%	116.4	27%	119.7	25%	110.3	23%	0.0%
Total Imports	388.1	100%	437.8	100%	480.4	100%	482.2	100%	0.4%
Outbound	2000		2010		2020		2050		Annual Growth
North America	25.3	7%	32.8	8%	40.2	8%	42.2	9%	1.0%
South America	4.4	1%	5.0	1%	5.6	1%	5.2	1%	0.3%
Europe	7.5	2%	8.6	2%	10.0	2%	9.9	2%	0.6%
Africa	1.6	0%	1.8	0%	2.0	0%	1.9	0%	0.4%
Middle East	0.6	0%	0.8	0%	1.1	0%	1.3	0%	1.5%
Asia	15.1	4%	17.8	4%	21.1	4%	21.7	4%	0.7%
Australia / NZ	1.0	0%	1.0	0%	1.1	0%	1.0	0%	0.2%
Other	0.5	0%	0.5	0%	0.6	0%	0.5	0%	0.3%
Total Exports	55.4	14%	67.9	16%	81.1	17%	83.2	17%	0.8%
Total Trade	2000		2010		2020		2050		Annual Growth
North America	163.6	36.9%	186.1	36.8%	205.8	36.6%	204.2	36.1%	0.4%
South America	112.6	25.4%	128.1	25.3%	141.6	25.2%	145.2	25.7%	0.5%
Europe	55.7	12.6%	63.0	12.5%	69.0	12.3%	67.2	11.9%	0.4%
Africa	45.5	10.3%	51.1	10.1%	55.4	9.9%	54.3	9.6%	0.4%
Middle East	32.8	7.4%	38.1	7.5%	43.9	7.8%	46.2	8.2%	0.7%
Asia	29.4	6.6%	34.7	6.9%	40.5	7.2%	42.6	7.5%	0.7%
Australia / NZ	4.0	0.9%	4.6	0.9%	5.3	1.0%	5.7	1.0%	0.7%
Other	110.3	24.9%	117.0	23.1%	120.2	21.4%	110.8	19.6%	0.0%
Total Trade	443.5	100.0%	505.7	100.0%	561.5	100.0%	565.4	100.0%	0.5%

Source: DRI-WEFA

1.5 US TRAMP TRADE : 2000-2050

“Tramp” is a term used to refer to a specific type of vessel that commonly transports dry bulk and break bulk goods, such as grain, coal, ore, and fertilizers on an irregular schedule. The majority of the world’s grains are transported via tramp carrier.

Total dry bulk trade in 1995 was nearly 1.6 billion metric tons, and in 2000, it reached 1.8 billions tons. As with other trades, the recession in 2001/2002 will cause this level to temporarily drop off before recovering in late 2002. Historical growth (1995-2000) averaged 2.8% per year. According to the forecast, rates in 2005-2050 should settle around 3.5%.



Unlike many of the segments of the U.S. foreign trade markets, exports and imports tonnage of tramp goods are roughly equal. In the short term, imports and exports maintain near equivalent shares of the market. Over time, imports capture a greater portion of the market, gaining 55% of the total by 2050.

Figure I.10a and I.10b summarize projected tramp trade by U.S. regional trading partner in 2000 and 2020. As demonstrated, over time, the market in this trade becomes more evenly distributed across regions. Still, the North American share remains substantial through 2020. Table I.3 represents both projected tonnage, as well as market share. As with other modes of transport, Asia’s market share of U.S. tramp imports experiences significant increases over the course of the forecast, growing from 16 to 24 percent. .

Figure I.10a U.S. Tramp Trade by Region, 2000

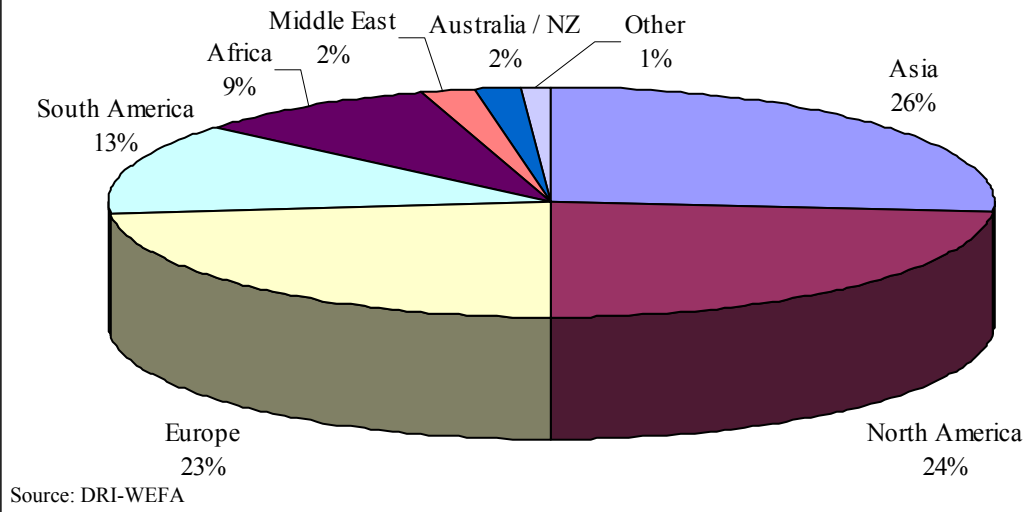


Figure I.10b U.S. Tramp Trade by Region, 2020

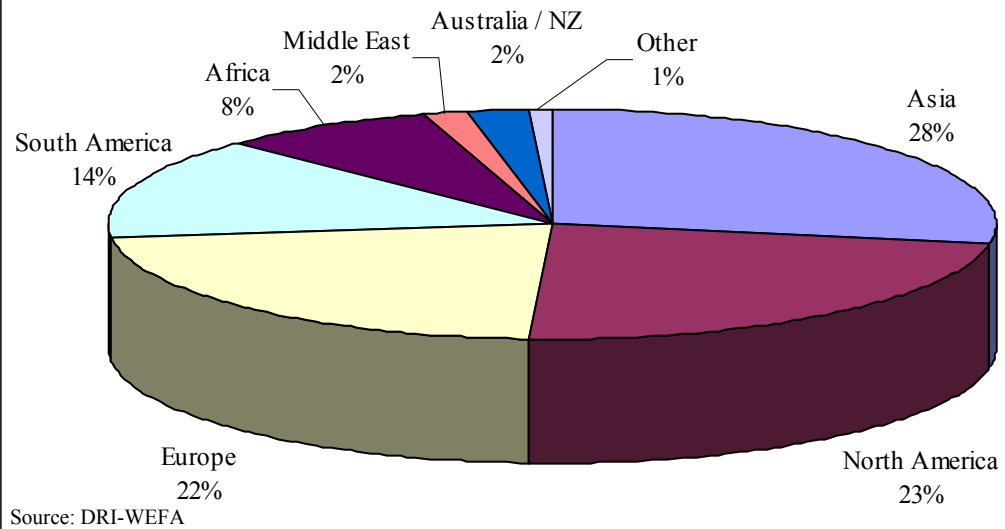


Table I.3 Projected Inbound and Outbound Dry Bulk Tonnage By Region, 2000-2050 (Millions of metric tons)									
Inbound	2000		2010		2020		2050		Annual Growth
North America	53.7	27.7%	63.3	26.4%	74.6	25.3%	80.3	23.4%	0.8%
Europe	42.5	21.9%	51.9	21.7%	62.3	21.1%	69.5	20.3%	1.0%
South America	39.5	20.4%	50.6	21.1%	63.8	21.6%	74.8	21.8%	1.3%
Asia	30.3	15.6%	41.5	17.3%	57.9	19.7%	82.9	24.2%	2.0%
Africa	18.9	9.7%	21.6	9.0%	23.6	8.0%	22.5	6.6%	0.4%
Australia / NZ	4.9	2.5%	6.1	2.6%	7.9	2.7%	9.1	2.6%	1.3%
Other	4.1	2.1%	4.4	1.8%	4.5	1.5%	4.1	1.2%	0.0%
Middle East	2.2	1.1%	2.3	1.0%	2.3	0.8%	2.1	0.6%	-0.1%
Total Imports	193.9	100.0%	239.5	100.0%	294.7	100.0%	343.3	100.0%	1.1%
Outbound	2000		2010		2020		2050		Annual Growth
North America	46.1	20.5%	52.6	20.9%	59.4	21.1%	64.8	21.6%	0.7%
Europe	54.8	24.3%	60.4	24.0%	66.1	23.5%	64.3	21.5%	0.3%
South America	15.8	7.0%	17.9	7.1%	19.7	7.0%	20.2	6.7%	0.5%
Asia	81.1	36.0%	90.1	35.8%	102.3	36.4%	115.1	38.4%	0.7%
Africa	18.8	8.3%	20.8	8.3%	22.4	8.0%	23.3	7.8%	0.4%
Australia / NZ	2.8	1.2%	3.5	1.4%	4.4	1.5%	4.9	1.6%	1.1%
Middle East	5.7	2.5%	6.6	2.6%	7.2	2.6%	7.2	2.4%	0.5%
Other	0.2	0.1%	0.2	0.1%	0.3	0.1%	0.3	0.1%	1.3%
Total Exports	225.1	100.0%	251.9	100.0%	281.5	100.0%	299.8	100.0%	0.6%
Total Trade	2000		2010		2020		2050		Annual Growth
North America	99.8	23.8%	115.9	23.6%	134.0	23.3%	145.2	22.6%	0.7%
Europe	97.3	23.2%	112.4	22.9%	128.4	22.3%	133.8	20.8%	0.6%
South America	55.4	13.2%	68.5	13.9%	83.5	14.5%	95.0	14.8%	1.1%
Asia	111.4	26.6%	131.6	26.8%	160.3	27.8%	198.0	30.8%	1.1%
Africa	37.6	9.0%	42.4	8.6%	46.0	8.0%	45.8	7.1%	0.4%
Australia / NZ	7.6	1.8%	9.7	2.0%	12.3	2.1%	14.0	2.2%	1.2%
Other	9.9	2.4%	11.0	2.2%	11.7	2.0%	11.4	1.8%	0.3%
Middle East	2.3	0.6%	2.5	0.5%	2.6	0.5%	2.4	0.4%	0.1%
Total Trade	419.0	100.0%	491.4	100.0%	576.2	100.0%	643.1	100.0%	0.9%
Source: DRI-WEFA									

1.6. US GENERAL CARGO TRADE: 2000-2050

Though the general cargo ship is in permanent decline, assailed on all sides by the encroachment of containerships, ro-ro ships and bulk carriers into their traditional territory, there remains a niche for this ship type. The flexibility of multipurpose vessels continues to keep general cargo ships in demand. Given these factors, it's not surprising that trade by this vessel type sees very little growth over the long-term forecast period; Figure I-11 depicts this forecast horizon.

Of the four vessel types represented, in the year 2000, general cargo vessels constituted the smallest contributor to U.S. international trade. These ships carried 27 million tons of cargo, less than 3% of total tonnage coming through U.S. ports. This share is not expected to increase substantially anytime in the future; commodity trade by this vessel type is expected to grow at approximately 2.2% per year until 2020, at which point growth slows to less than 1% per year.

Figures I.12a and I.12b summarize projected general cargo trade by U.S. regional trading partner in 2000 and 2020. Major sources of inbound general cargo traffic continue to be Europe, Asia and the Americas; together these trades account for over 90% of all imports carried by general cargo vessels. Table I.13 compares tonnage and market share between 2005 and 2050. As this vessels trade is representative of, what is already, a highly specialized commodity trade, few changes are expected in the long-term.

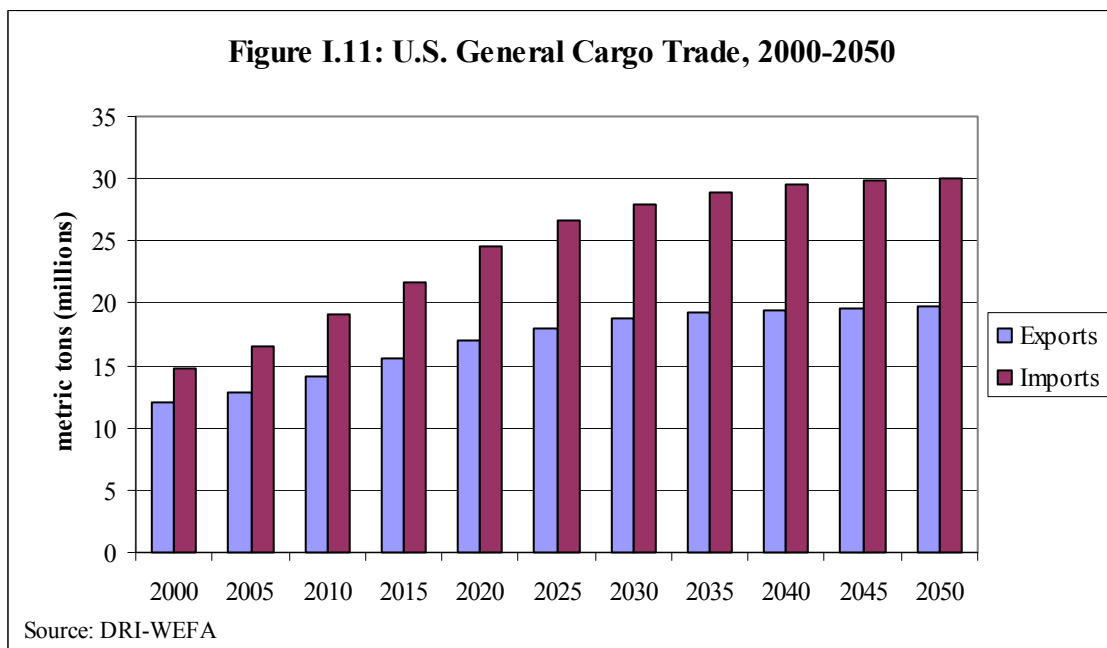


Figure I.12a U.S. General Cargo Trade by Region, 2000

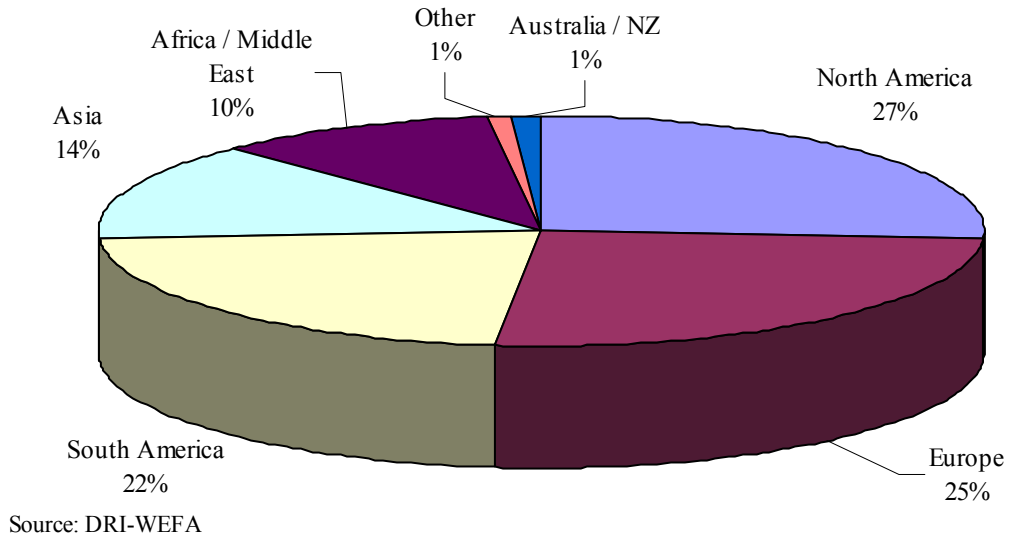


Figure I.12b U.S. General Cargo Trade by Region, 2020

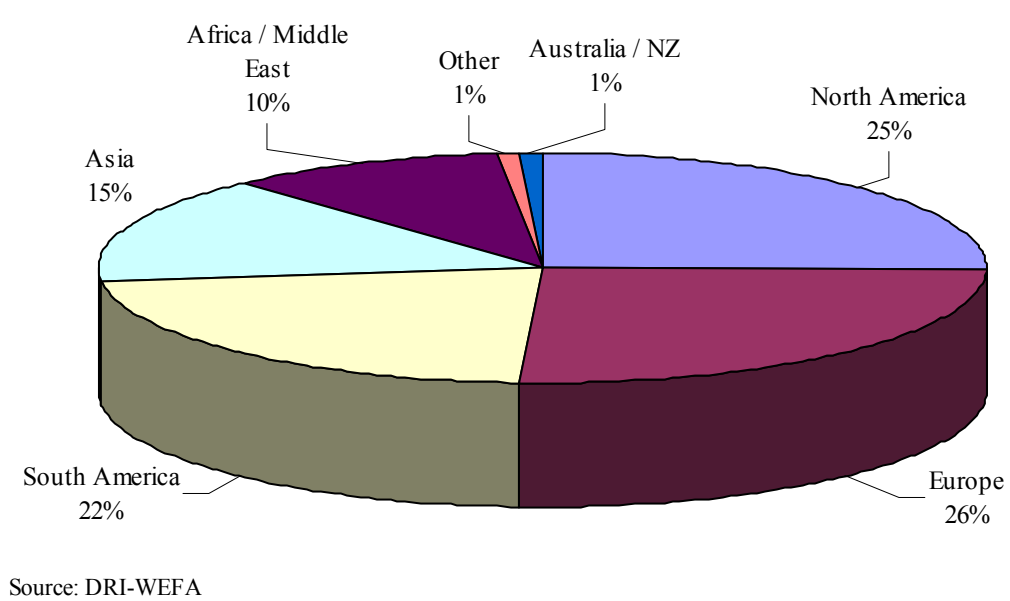


Table I.4 Projected Inbound and Outbound General Cargo Tonnage By Region, 2000-2050 (Millions of metric tons)									
Inbound	2000		2010		2020		2050		Annual Growth
Europe	4.3	29.3%	5.5	29.1%	6.9	28.4%	7.8	26.3%	1.2%
South America	3.7	25.7%	4.9	25.9%	6.3	26.1%	7.7	26.3%	1.4%
North America	2.9	20.1%	3.8	20.4%	5.0	20.7%	6.4	21.6%	1.5%
Asia	2.4	16.4%	3.1	16.7%	4.2	17.4%	5.7	19.3%	1.7%
Africa	0.8	5.6%	1.0	5.4%	1.3	5.2%	1.4	4.7%	1.1%
Other	0.2	1.7%	0.3	1.4%	0.3	1.1%	0.2	0.8%	0.0%
Australia / NZ	0.2	1.1%	0.2	1.1%	0.3	1.1%	0.3	1.0%	1.2%
Middle East	0.2	1.1%	0.2	1.2%	0.4	1.5%	0.5	1.7%	2.4%
Total Imports	14.6	100.0%	18.8	100.0%	24.3	100.0%	29.5	100.0%	1.4%
Outbound	2000		2010		2020		2050		Annual Growth
Europe	2.5	22.1%	3.1	22.6%	3.7	23.0%	4.3	22.8%	1.0%
South America	2.2	18.9%	2.5	18.5%	2.9	18.1%	3.3	17.5%	0.8%
North America	4.1	35.5%	4.7	34.6%	5.5	34.1%	6.5	34.6%	0.9%
Asia	1.3	11.5%	1.6	12.1%	2.1	12.9%	2.6	14.0%	1.4%
Africa	1.2	10.8%	1.5	11.0%	1.7	10.7%	1.9	9.9%	0.8%
Other	0.0	0.4%	0.1	0.5%	0.1	0.5%	0.1	0.6%	1.9%
Australia / NZ	0.1	0.9%	0.1	0.8%	0.1	0.8%	0.1	0.6%	0.3%
Middle East	0.5	4.5%	0.6	4.7%	0.8	4.8%	0.9	4.9%	1.2%
Total Exports	11.5	100.0%	13.5	100.0%	16.2	100.0%	18.8	100.0%	1.0%
Total Trade	2000		2010		2020		2050		Annual Growth
Europe	6.8	26.1%	8.5	26.4%	10.6	26.2%	12.0	25.0%	1.1%
South America	5.9	22.7%	7.4	22.8%	9.3	22.9%	11.0	22.9%	1.2%
North America	7.0	26.9%	8.5	26.3%	10.6	26.1%	12.8	26.6%	1.2%
Asia	3.7	14.2%	4.8	14.8%	6.3	15.6%	8.3	17.2%	1.6%
Africa	2.1	7.9%	2.5	7.8%	3.0	7.4%	3.2	6.7%	0.9%
Other	0.3	1.1%	0.3	1.0%	0.4	0.9%	0.4	0.8%	0.4%
Australia / NZ	0.3	1.0%	0.3	1.0%	0.4	1.0%	0.4	0.9%	0.9%
Middle East	0.7	2.6%	0.9	2.7%	1.1	2.8%	1.4	3.0%	1.5%
Total Trade	26.1	100.0%	32.3	100.0%	40.5	100.0%	48.2	100.0%	1.2%
Source: DRI-WEFA									

CONCLUSIONS

The outlook for global trade, reflecting the recovery from the 2001 global recession, is for stronger growth in 2002 and 2003 as the world economic recovery takes hold. The outlook for the economies of the world is not all positive in the near term through 2003, as several countries still face very weak economic conditions.

The United States is leading the world out of the recession, with continued consumer demand and inventory rebuilding by businesses leading to stronger imports in 2001. With the notable exception of Japan, the major developed country trade partners of the United States in North America, Europe and Asia are also beginning recovery and will see returns to growth in commodity trade during 2002 and 2003. Because the economic recovery in other countries is lagging that of the United States, U.S. exports will not return to growth as quickly as U.S. imports.

Among the United States' developing country trade partners, there are continuing problems in Argentina, Venezuela and the Middle East that are reducing economic and trade growth in those regions. Eastern and Central Europe countries are still in recovery from their transitions to market economies and they benefit from competitive export prices. Russia's economy has recovered with the increase in world crude oil prices, which are increasingly important as their exports. Africa still suffers from weak non-oil world commodity prices and political instability, weakening the near term potential for significant increases in international commodity trade.

In the longer term, the growth in international commodity trade will reflect the growth in consumption and increased globalization of markets, but still be subject to limits of population, real income and productivity growth. In value terms, it is very unlikely that United States import growth will grow more than six percent annually, in contrast to double digit percentage growth seen towards the end of the economic boom in 2000. U.S. seaborne commodity imports will continue to outpace exports, with overall seaborne trade increasing about two percent annually, on average.

As it has for the last four decades, the portion of total U.S. seaborne trade that is containerized will continue to increase in the future, although at a slower rate of growth in share. In tonnage terms, the average annual 50-year growth in containerized U.S. trade will be approximately 2.7 percent, with imports remaining greater than exports throughout the period. As a region, Asia will strengthen its position as the largest origin and destination region for U.S. containerized trade reaching levels where almost two-thirds of all U.S. containerized trade by 2020 will be with Asia.

U.S. tanker trade is dominated by crude oil imports now and in the future, though the forecast for U.S. crude oil are for imports to peak around the year 2030 and then slightly decline through 2050. U.S. General cargo import trade will experience the strongest growth for trade by this mode, growing at 2.68% per year thru 2020. U.S. dry bulk and break bulk trade carried on vessels in "tramp" service are going to become balanced between imports and exports by 2030 with faster growth in imports leading to a 55 percent share of tonnage by 2050.

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2. MAJOR COMMODITY GROUPS AND FLOWS IN THE UNITED STATES

2.1 TYPES AND QUANTITIES OF U.S. MARITIME COMMODITIES

Figures II.1 and II.2 display the top 20 maritime commodities in the United States. As the world's largest consumer of energy crude petroleum continues to hold the position as the U.S. number one imported good. Imports of crude petroleum, 76 million metric tons, account for over 50% of U.S. import trade by weight. Though crude imports lost market share in the last months of 2001—down from 65% in 1996—in the short term, crude is expected to regain some of its market share as the economy rebounds in 2002. In the long term, crude petroleum will begin to steadily lose market share, decreasing to less than 35% of U.S. import tonnage by 2025.

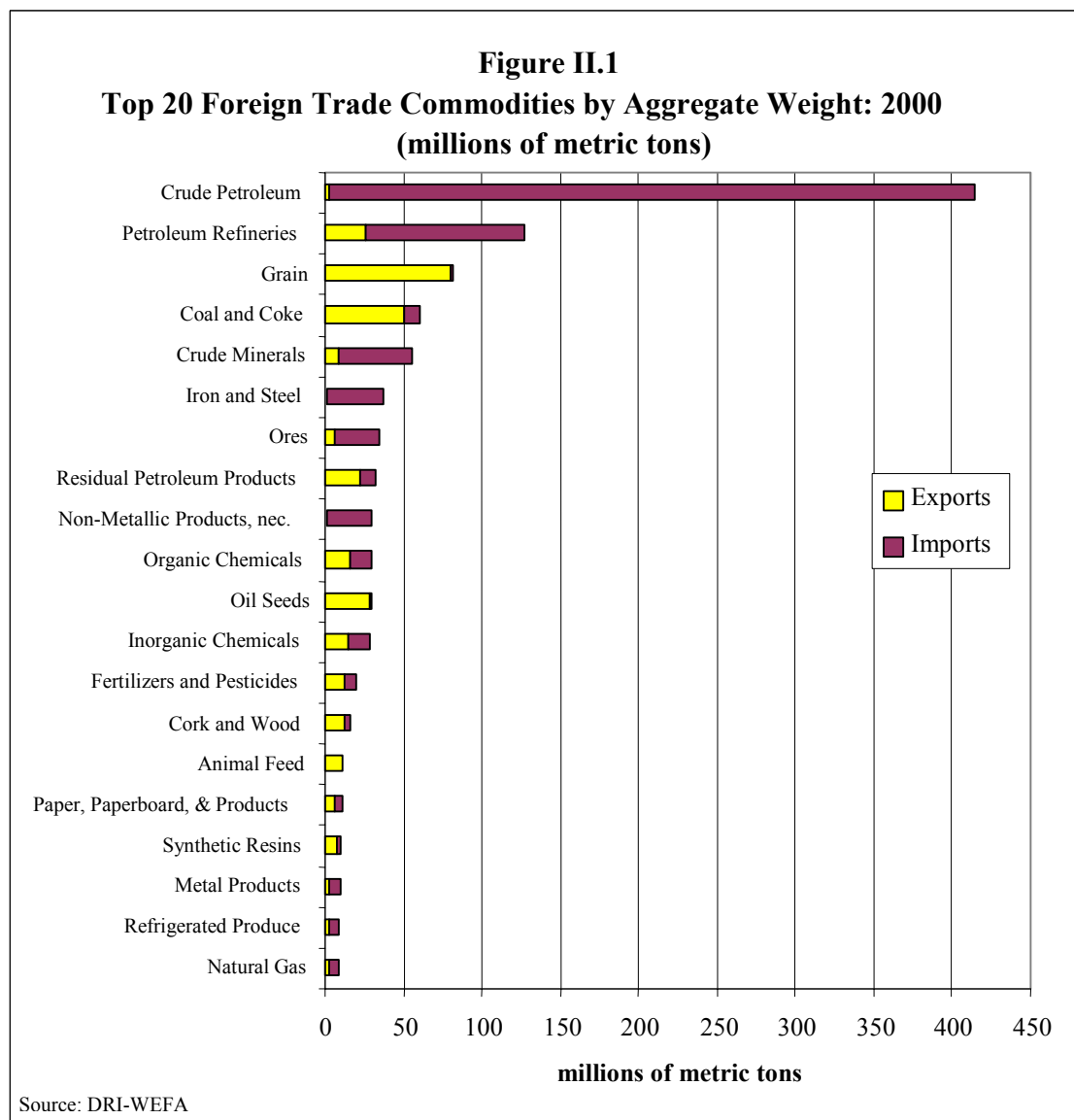
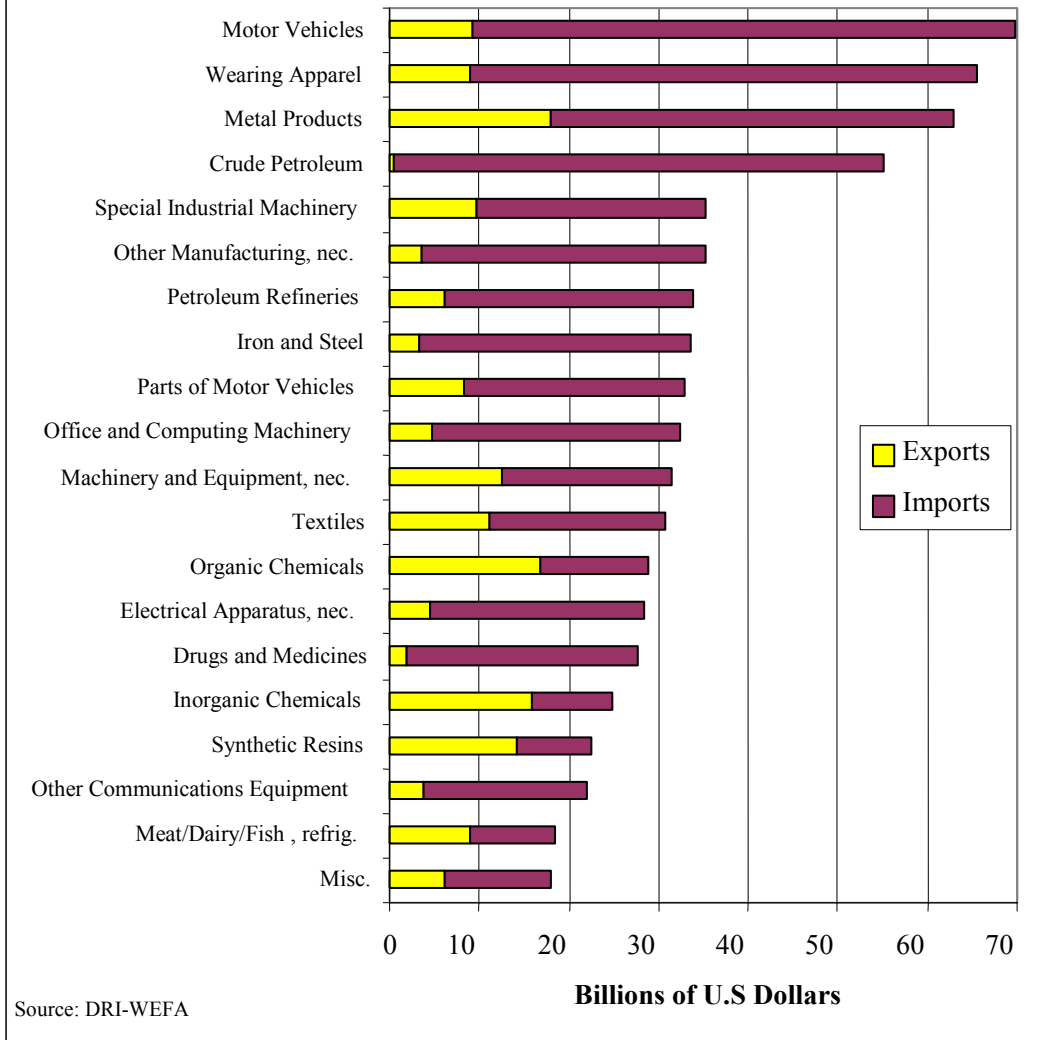


Figure II.2.
Top 20 Foreign Trade Commodities by Aggregate Value: 2000
(\$ billions)



Tables II.1 and II.2 detail the top 20 commodities by trade direction, as well as by weight and value. In the past five years, not much has occurred to shift the market share (in weight or value) of these commodities. The U.S. continues to be one of the world's pre-eminent producers of grain and other agricultural products; grain exports alone account for 22%, or 80 million metric tons, of exports. Manufactured items, such as motor vehicles, wearing apparel, and machinery parts, also continue to make up a substantial portion of international trade. In 2000, such items accounted for 4 of the top 5 commodities by value. Motor vehicles and motor vehicle parts, representative of the type of commodity frequently transported by containerships (high value per unit), contributes over \$100 billion to total U.S. trade value. The collapse of the booming U.S. Information Technology (IT) industry in 2001 dramatically slowed the growth in trade of semi-conductors, communications equipment, and office and computing equipment.

The economic slowdown that began in early 2001 is partly due to economic structural adjustments needed to reduce over-investment in the IT industry. As a result, global trade related to this industry was stagnant through 2001 and is expected to remain this way into 2002.

Measured in nominal value, there will be almost no growth in trade of semi-conductors, communications equipment, or office and computing machinery this year. Due to the dependence of other industries on the IT industry, the slowdown spread to a broad range of capital good industries, including world trade in machinery and equipment.

Layoffs and vanishing capital gains have dramatically reduced personal income in the recent past. Demands for automobiles and durable goods lost the most ground, but even the demand for imported food and clothing was much weaker. Overall in 2001, the economic engine shifted to a low gear, which makes the demand for energy items, such as crude and refined petroleum oil, also weaker than in 2001, even though their prices are lower this year.

Table II.1 Top 20 U.S. Import Commodities by Weight and Value, 2000 (Millions of metric tons and \$ billions)					
Top Imports by tonnage	Tons	% Share	Top Imports by value	Value	% Share
Crude Petroleum	411.18	50.36%	Motor Vehicles	\$ 60.49	8.08%
Petroleum Refineries	101.07	12.38%	Wearing Apparel	\$ 56.62	7.56%
Crude Minerals	46.54	5.70%	Crude Petroleum	\$ 54.73	7.31%
Iron and Steel	36.10	4.42%	Metal Products	\$ 44.90	6.00%
Non-Metallic Products, nec.	28.91	3.54%	Other Manufacturing, nec.	\$ 31.64	4.23%
Ores	28.22	3.46%	Iron and Steel	\$ 30.36	4.06%
Inorganic Chemicals	13.55	1.66%	Petroleum Refineries	\$ 27.70	3.70%
Organic Chemicals	13.49	1.65%	Office & Computing Machinery	\$ 27.70	3.70%
Coal and Coke	9.96	1.22%	Drugs and Medicines	\$ 25.84	3.45%
Residual Petroleum Products	9.36	1.15%	Special Industrial Machinery	\$ 25.44	3.40%
Fertilizers and Pesticides	7.19	0.88%	Parts of Motor Vehicles	\$ 24.57	3.28%
Metal Products	6.81	0.83%	Electrical Apparatus, nec.	\$ 24.08	3.22%
Refrigerated Produce	6.13	0.75%	Textiles	\$ 19.80	2.64%
Natural Gas	5.95	0.73%	Machinery and Equipment, nec.	\$ 19.02	2.54%
Other Manufacturing, nec.	5.42	0.66%	Communications Equipment	\$ 18.16	2.43%
Motor Vehicles	5.15	0.63%	Footwear	\$ 14.89	1.99%
Paper, Paperboard, and Products	4.39	0.54%	Ores	\$ 14.23	1.90%
Wearing Apparel	4.14	0.51%	Organic Chemicals	\$ 12.14	1.62%
Furniture and Fixtures	4.09	0.50%	Miscellaneous	\$ 11.75	1.57%
Other Food	3.86	0.47%	Furniture and Fixtures	\$ 11.08	1.48%
Top 20 Total Tonnage	751.5	92.1%	Top 20 Total Value	\$ 555.1	74.2%
Total Import Tonnage	816.4	100.0%	Total Import Value	\$ 748.5	100.0%

Source: DRI-WEFA Analysis of WCSC Data

U.S. exports continue to be dominated by grain exports, which comprised 22% of market share in 2000. Over the course of the forecast, this percent share begins to decline. Market share shifts commodities such as metal products, non-metallic products, fruits and vegetables, wearing apparel, other manufacturing items, and furniture. All of these commodities experience growth of 2% or more per annum throughout the forecast interval.

Figures II.3a, b, c, and d represent commodity shares of U.S. sea-borne imports and exports, in 2000 and 2020 respectively. Each pie chart represents the top 20 commodities for that given direction and year of trade. Between 2000 and 2020, the changes occurring in the composition of these groupings are representative of the prevailing future trend.

A primary assumption behind our prediction of growth in these commodities is that as countries of the developing world join the world market and increase their respective GDPs, people will demand more vegetables, fruits, and meat than grain, more fresh and processed foods than raw and dry bulk. Additionally, the demand for metal products, as well as commodities used in manufacturing, will see an increase that is concurrent with the increasing production potential of Asian countries (specifically China). As a consequence, U.S. exports in these commodities will increase. For instance, in 2020, the export of refrigerated fruits, vegetables, and eggs is forecast to increase by 3.5% per annum from 2000 to 2020. Also, although not ranked among the top 20, electrical industrial machinery exports expand at the same high rate. In 2020, crude

petroleum remains the number 1 U.S. import commodity category in terms of tonnage. However, crude's market share will decrease by 12 %, comprising only 38.5% of U.S. sea-borne imports.

Between 2000 and 2020, office and computing machinery experiences the fastest annual growth, at about 6% per year. Considering the above discussion, this is really no surprise. Across industries, technological sectors are expected to grow faster than traditional ones. And across countries, due to increasing globalization and the reduction of barriers to international exchange, labor-intensive production has been shifting to less-developed nations with lower labor costs and therefore a comparative advantage in producing such goods. The pattern of international commodity trade will follow this evolution. Thus we expect that the real value of high tech commodities, especially IT commodities, will grow faster than the commodities produced in traditional economies. Additionally, newly industrialized countries' exports of labor-intensive manufacturing goods will grow faster than developed countries' exports of those goods. Therefore, given a comparative disadvantage for producing labor-intensive manufactured items, the U.S. will import increasingly more of such goods.

Table II.2 Top 20 U.S. Export Commodities by Weight and Value, 2000 (Millions of metric tons and \$ billions)					
Top Exports by tonnage	Tons	% Share	Top Exports by value	Value	% Share
Grain	80.00	21.67%	Metal Products	\$ 17.89	5.84%
Coal and Coke	51.02	13.82%	Organic Chemicals	\$ 16.78	5.48%
Oil Seeds	28.49	7.72%	Inorganic Chemicals	\$ 15.75	5.14%
Petroleum Refineries	25.75	6.98%	Synthetic Resins	\$ 14.14	4.62%
Residual Petroleum Products	22.46	6.08%	Machinery and Equipment, nec.	\$ 12.53	4.09%
Organic Chemicals	15.82	4.29%	Grain	\$ 12.23	3.99%
Inorganic Chemicals	14.19	3.85%	Textiles	\$ 11.04	3.60%
Cork and Wood	12.72	3.45%	Fertilizers and Pesticides	\$ 9.94	3.24%
Fertilizers and Pesticides	12.61	3.42%	Special Industrial Machinery	\$ 9.81	3.20%
Animal Feed	11.17	3.03%	Motor Vehicles	\$ 9.29	3.03%
Crude Minerals	8.68	2.35%	Wearing Apparel	\$ 8.93	2.92%
Synthetic Resins	7.01	1.90%	Oil Seeds	\$ 8.91	2.91%
Waste Paper	6.38	1.73%	Meat/Dairy/Fish (refrigerated)	\$ 8.89	2.90%
Paper, Paperboard, & Products	6.21	1.68%	Parts of Motor Vehicles	\$ 8.27	2.70%
Ores	5.80	1.57%	Chemical Products, nec.	\$ 7.18	2.34%
Pulp	4.74	1.28%	Other Food	\$ 6.91	2.26%
Meat/Dairy/Fish (refrigerated)	4.69	1.27%	Professional Equipment	\$ 6.34	2.07%
Other Food	4.26	1.15%	Misc.	\$ 6.18	2.02%
Chemical Products, nec.	3.45	0.93%	Petroleum Refineries	\$ 6.14	2.00%
Scrap	3.32	0.90%	Paper, Paperboard, & Products	\$ 5.73	1.87%
Top 20 Total Tonnage	328.8	89.07%	Top 20 Total Value	\$ 202.9	66.24%
Total Export Tonnage	369.1	100.0%	Total Export Value	\$ 306.3	100.0%
Source: DRI-WEFA Analysis of WCSC Data					

These market shifts are illustrated in the pie charts on the following pages. Figures II.3a through II.3d represent the changing market basket, or collection, of commodities involved in U.S. international maritime trade between 2000 and 2020. The commodity classifications have

been aggregated into eight major groups that encompass all commodities involved in U.S. international trade: fossil fuels, crude minerals, food, chemicals, crude minerals, agriculture, metals, machinery, and miscellaneous (aggregation includes commodities that may not be classified in other groupings, incl. non-metallic nec. and other manufacturing nec.). For the most part, the overall distribution of market shares does not vary dramatically over the projection period.

Tables II-3 and II-4, likewise demonstrate the changing emphasis of U.S. international trade by commodity and direction. In these more detailed depictions, the commodities with the strongest levels for growth, 3% or above, are highlighted. In this way, not only can the growth trend be evidenced, but also its source can be more accurately identified. For instance, between 2000 and 2020, crude petroleum imports drop off by about 12%, most likely a result of decreasing U.S. demand of crude petroleum imports, spurred by the volatility of the world oil market and by increasing utilization of renewal energy. In the other direction, it is clear that world demand of luxury goods is on the rise. Over the forecast period, wearing apparel, refrigerated (more costly) food items, and furniture exports all experience growth above 3%.

Figure II.3a: U.S. Imports by Commodity Type, 2000
(percent of seaborne metric tons)

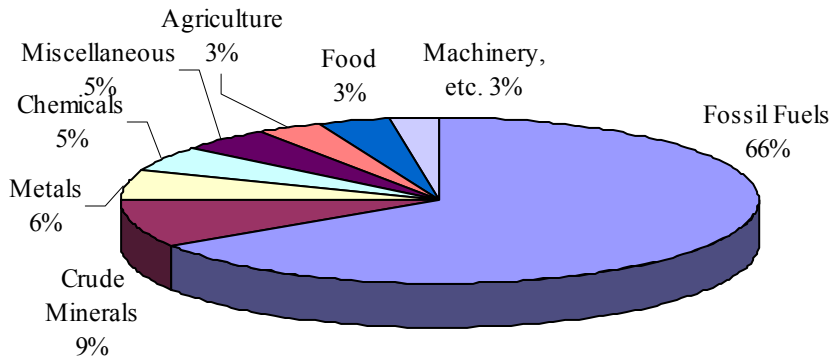


Figure II.3c: U.S. Exports by Commodity Type, 2000
(percent of seaborne metric tons)

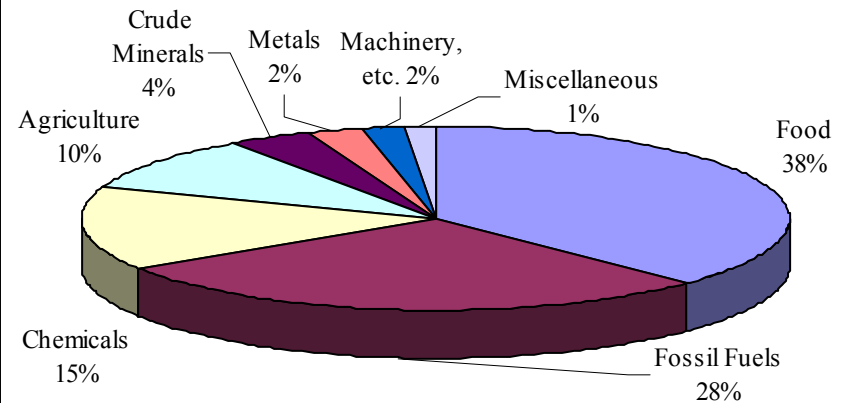


Figure II.3b: U.S. Imports by Commodity Type, 2020
(percent of seaborne metric tons)

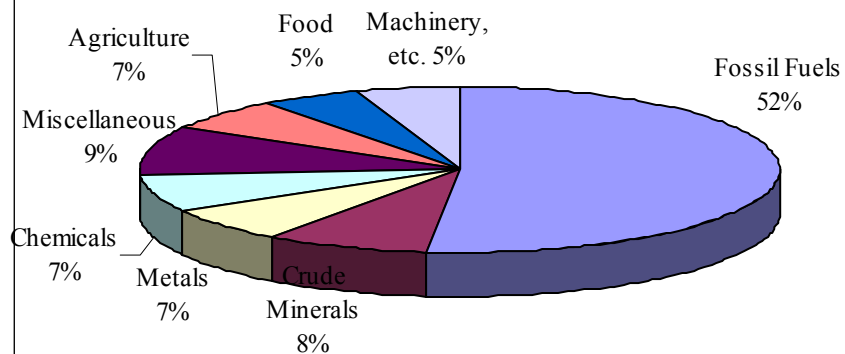
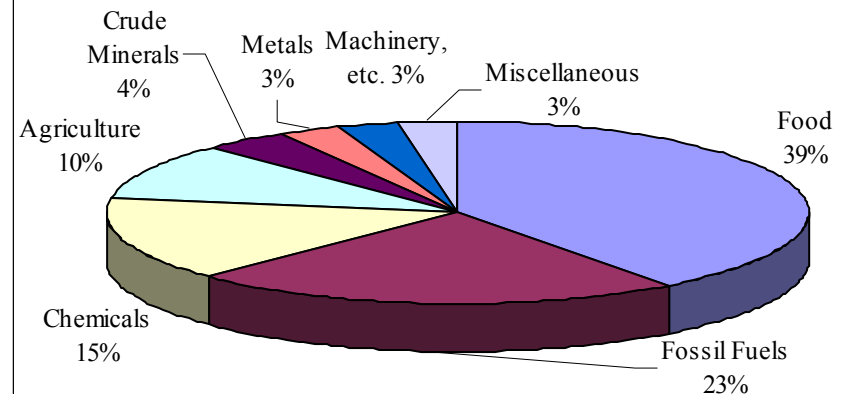


Figure II.3d: U.S. Exports by Commodity Type, 2020
(percent of seaborne metric tons)



Source: DRI-WEFA

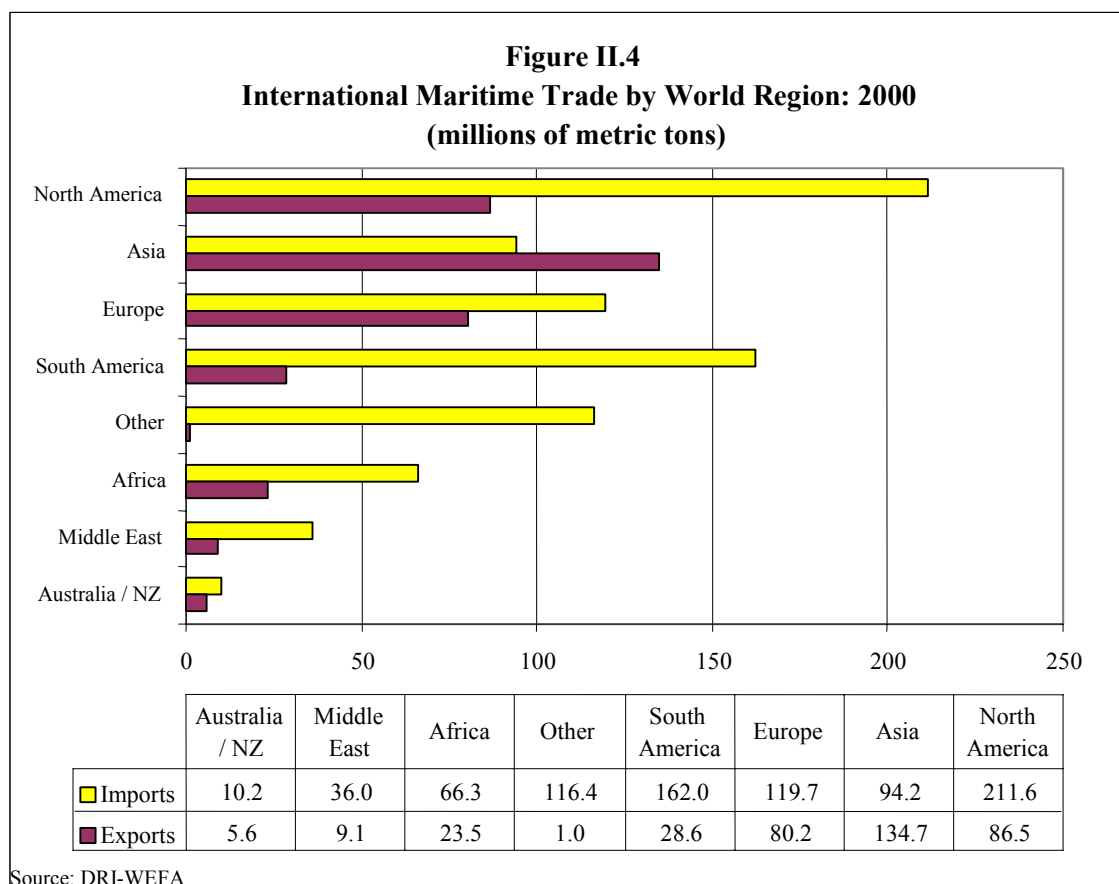
Table II.3: Forecast Tonnage for Top U.S. Imports (Millions of metric tons)					
Commodity	2000	2010	2020	2050	% Annual growth
Crude Petroleum	411.2	441.8	460.7	434.4	0.1%
Petroleum Refineries	101.1	119.0	127.6	118.8	0.3%
Crude Minerals	46.5	57.8	69.5	73.3	0.9%
Iron and Steel	36.1	43.6	53.1	60.1	1.0%
Non-Metallic Products, nec.	28.9	47.0	73.5	117.2	2.8%
Ores	28.2	27.7	28.1	24.4	-0.3%
Inorganic Chemicals	13.5	18.1	24.9	30.7	1.6%
Organic Chemicals	13.5	23.9	41.2	63.6	3.1%
Coal and Coke	10.0	13.8	16.9	17.8	1.2%
Residual Petroleum Products	9.4	8.6	8.0	7.3	-0.5%
Fertilizers and Pesticides	7.2	8.3	8.6	7.4	0.1%
Metal Products	6.8	11.1	17.8	27.1	2.8%
Refrigerated Produce	6.1	11.5	22.0	41.1	3.8%
Natural Gas	6.0	6.0	6.3	6.1	0.1%
Other Manufacturing, nec.	5.4	10.6	20.7	44.5	4.2%
Motor Vehicles	5.2	6.8	8.5	10.0	1.3%
Paper, Paperboard, and Products	4.4	6.1	8.1	9.2	1.5%
Wearing Apparel	4.1	8.2	16.6	34.2	4.2%
Furniture and Fixtures	4.1	8.2	16.5	33.5	4.2%
Other Food	3.9	5.5	7.7	9.8	1.9%
Beverages	3.8	5.1	6.6	7.5	1.4%
Cork and Wood	3.6	4.9	6.3	7.6	1.5%
Parts of Motor Vehicles	3.5	5.5	8.3	14.0	2.8%
Non-Ferrous Metals	3.4	4.9	6.6	7.0	1.4%
Misc.	3.0	6.3	12.7	25.9	4.3%
Sugar	2.9	3.1	3.2	2.9	-0.1%
Refrigerated Meat/Dairy/Fish	2.6	3.3	3.9	4.1	0.9%
Synthetic Resins	2.6	3.8	5.3	6.6	1.9%
Other Food	2.6	3.4	4.2	4.9	1.3%
Machinery and Equipment, nec.	2.5	4.0	6.3	10.8	2.9%
Textiles	2.5	4.1	6.3	9.0	2.6%
Wood Products	2.4	4.5	7.7	12.2	3.2%
Chemical Products, nec.	2.2	3.0	3.6	3.4	0.8%
Source: DRI-WEFA (Highlighting indicates an annual growth rate of 3.0% or higher).					

Table II.4 Forecast Tonnage for Top U.S. Exports (Millions of metric tons)					
Commodity	2000	2010	2020	2050	% Annual growth
Grain	80.0	88.2	93.3	91.4	0.3%
Coal and Coke	51.0	49.4	48.0	42.4	-0.4%
Oil Seeds	28.5	38.3	52.6	75.7	2.0%
Petroleum Refineries	25.8	33.0	39.0	37.9	0.8%
Residual Petroleum Products	22.5	26.0	29.0	29.9	0.6%
Organic Chemicals	15.8	18.3	21.5	20.7	0.5%
Inorganic Chemicals	14.2	17.4	21.9	25.0	1.1%
Cork and Wood	12.7	11.1	10.2	8.7	-0.8%
Fertilizers and Pesticides	12.6	13.9	14.9	14.4	0.3%
Animal Feed	11.2	15.6	21.7	25.9	1.7%
Crude Minerals	8.7	10.3	12.4	13.4	0.9%
Synthetic Resins	7.0	9.0	11.4	12.8	1.2%
Waste Paper	6.4	9.1	12.4	14.5	1.6%
Paper, Paperboard and Products	6.2	8.4	11.4	13.4	1.5%
Ores	5.8	7.5	8.0	7.0	0.4%
Pulp	4.7	5.8	7.2	8.0	1.1%
Refrigerated Meat/Dairy/Fish	4.7	6.8	9.7	14.2	2.2%
Other Food	4.3	6.5	9.9	15.2	2.5%
Chemical Products, nec.	3.5	4.6	5.7	5.8	1.0%
Scrap	3.3	3.8	4.3	4.2	0.4%
Misc.	3.1	6.0	11.1	20.1	3.7%
Metal Products	2.8	3.5	4.5	5.3	1.3%
Crude Petroleum	2.6	2.2	2.0	1.5	-1.1%
Natural Gas	2.5	2.8	3.0	2.7	0.1%
Refrigerated Produce	2.5	4.6	8.7	16.3	3.7%
Animal and Vegetable Oils	2.4	3.3	4.6	6.3	1.9%
Non-Ferrous Metals	1.7	2.1	2.8	3.2	1.3%
Textiles	1.4	1.8	2.4	2.8	1.5%
Iron and Steel	1.3	1.5	1.7	1.9	0.7%
Other Food	1.3	1.8	2.6	3.8	2.1%
Machinery and Equipment, nec.	1.3	1.6	2.0	2.3	1.2%
Non-refrigerated produce	1.3	1.9	2.8	3.7	2.1%
Motor Vehicles	1.2	1.6	2.3	3.2	2.1%
Source: DRI-WEFA (Highlighting indicates an annual growth rate of 3.0% or higher).					

2.2 COMMODITY FLOW BY TRADING PARTNER

Figures II-4 and II-5 show the distribution of U.S. sea-borne trade across various trade routes in the year 2000 by tonnage and by value. In both directions, U.S. trade with North America (representing Canada & Mexico), Europe, and Asia constitutes approximately 60% of U.S. trade by weight. The smaller trades routes, namely Africa and the Mid-East and Australia, account for less than 20% of imported and less than 3% of exported tonnage. In the year 2000, in metric tons, the U.S. imported more from Mexico and Canada than from any other world region. These routes account for 27% of U.S. exports, a little under 205 million metric tons. On the other hand, Asia dominated U.S. export trade, with exports a little over 130 million metric tons. In 2000, exports to Asia alone amounted to almost 40% of total U.S. maritime trade.

Over time, as Asian demand for U.S. exports develop, this route becomes increasingly important in terms of both imports and exports. Between 2000 and 2020, the Asian share of U.S. exports is expected to expand. All other trade routes, with the exception of exports to North America, will experience declines in market share throughout the forecast.



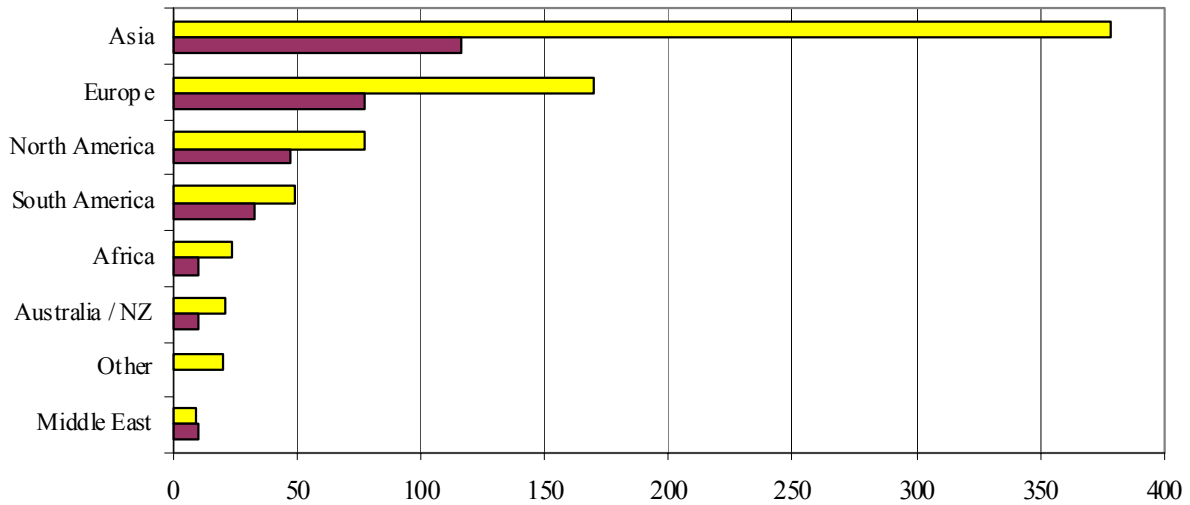
The U.S. typically runs a current-account deficit, which means that the value of its imports exceeds the value of its exports. While it would seem that this state of affairs would not be sustainable for an extended period of time, the expectation is that the tonnage trade deficit per annum will increase over the next 50 years. While this will be somewhat offset by increases in U.S. exports of services, the forecast of trade, in terms of metric tons, does not reflect it. In previous analysis, it was assumed that the U.S. would enjoy a permanent comparative advantage in high volume tonnage exports such as agricultural goods and coal. With recent productivity gains in some Asian and Latin American trade partner countries this is no longer automatically assumed to be the case over the very long term.

Seaborne east-west trade over the route between Asia and the United States is even more significant when considered in value terms. In 2000, commodity trade equivalent to \$495 billion flowed over this route; \$117 billion and \$378 billion in imports and exports, respectively. Considering the types of commodities traded, this is not surprising. The distribution of U.S. trade by region and direction can be found in Tables II.5 and II.6. Drawing particular attention to highlighted figures, these tables evidence that commodities arriving from Asia are primarily high-tech manufactured goods and parts-- high value items equivalent to almost 50% of all U.S. import value.

Encompassing several small island nations and off-coast lightering areas (off-shore facilities where deep-sea vessels load and unload commodities), the region labeled “other” creates a certain data anomaly through this analysis. This phenomenon is clearly exemplified in Table II.5, which lists the top maritime commodities by world region. In this table, the other region is responsible for over 25% of all crude petroleum imports. It is likely that these quantities originated in other regions, but were accounted for at various lightering stations.

Figures II.6a and II.6b, depict the changing composition of U.S. trade by region of origin/destination between 2000 and 2020. As mentioned previously, as Asian demand for U.S. exports develops, this route becomes increasingly important in terms of both imports and exports.

Figure II.5
International Maritime Trade by World Region: 2000
(\$ billions)



	Middle East	Other	Australia / NZ	Africa	South America	North America	Europe	Asia
Imports	\$9.14	\$20.3	\$21.3	\$23.4	\$49.3	\$77.3	\$169.4	\$378.4
Exports	\$9.39	\$1.02	\$10.0	\$10.8	\$33.3	\$47.8	\$77.8	\$116.3

Source: DRI-WEFA

Table II.5
Top U.S. International Maritime Trade Commodities by World Region, 2000
(millions of metric tons)

Commodity	North America		Asia		Europe		South America		Africa		Middle East		Australia/ NZ		Other		World Total		
	Imp	Exp	Imp	Exp	Imp	Exp	Imp	Exp	Imp	Exp	Imp	Exp	Imp	Exp	Imp	Exp	Imp	Exp	Overall
Crude Petroleum	107.4	-	6.0	2.2	31.6	-	84.0	-	38.1	-	28.1	-	2.2	-	113.8	-	411.2	2.2	413.3
Iron and Steel	2.3	-	9.5	0.4	14.8	0.5	7.6	-	1.1	-	-	-	0.7	-	-	-	36.1	0.9	36.9
Metal Products	0.7	0.7	3.9	1.6	1.1	0.2	0.3	-	0.6	-	-	-	-	-	-	-	6.6	2.6	9.2
Motor Vehicles	-	0.3	3.5	-	1.4	0.4	-	-	-	-	-	-	-	-	-	-	4.9	0.7	5.6
Office and Computing Machinery	-	-	1.6	-	-	-	-	-	-	-	-	-	-	-	-	-	1.6	-	1.6
Other Manufacturing, nec.	-	-	5.0	-	0.2	-	-	-	-	-	-	-	-	-	-	-	5.2	-	5.2
Parts of Motor Vehicles	-	-	2.2	0.2	0.7	0.3	0.5	0.3	-	-	-	-	-	-	-	-	3.4	0.8	4.1
Petroleum Refineries	25.3	18.9	5.3	3.3	26.5	1.7	25.2	0.9	14.9	0.2	1.3	0.3	0.3	-	2.2	0.3	101.1	25.7	126.7
Special Industrial Machinery	-	-	0.7	0.2	0.9	0.2	-	-	-	-	-	-	-	-	-	-	1.6	0.4	2.1
Wearing Apparel	0.9	0.7	2.7	-	0.2	-	-	-	-	-	-	-	-	-	-	-	3.8	0.7	4.5
Total	136.7	20.6	40.5	8.0	77.3	3.2	117.6	1.2	54.7	0.2	29.5	0.3	3.2	-	116.0	0.3	575.4	33.8	609.3

Source: DRI-WEFA Analysis of WCSC Data. Highlighting indicates values greater than 10.0 million metric tons, a dash indicates values less than 0.05 million metric tons

Table II.6
Top U.S. International Maritime Trade Commodities by World Region, 2000
(Billions of U.S. dollars)

Commodity	North America		Asia		Europe		South America		Africa		Middle East		Australia/ NZ		Other		World Total		
	Imp	Exp	Imp	Exp	Imp	Exp	Imp	Exp	Imp	Exp	Imp	Exp	Imp	Exp	Imp	Exp	Imp	Exp	Overall
Crude Petroleum	\$13.4	-	\$1.0	\$0.3	\$5.2	-	\$9.9	-	\$5.7	-	\$3.6	-	\$0.4	-	\$15.6	-	\$41.3	\$0.4	\$41.6
Iron and Steel	\$1.4	\$0.3	\$10.8	\$1.0	\$14.5	\$1.4	\$2.6	\$0.4	\$0.6	-	-	-	\$0.3	-	-	-	\$29.0	\$3.0	\$32.0
Metal Products	\$15.3	\$1.9	\$15.5	\$12.4	\$5.7	\$2.2	\$2.7	\$0.8	\$4.9	\$0.2	\$0.3	\$0.2	\$0.6	-	-	-	\$29.6	\$16.0	\$45.6
Motor Vehicles	\$1.9	\$1.4	\$37.9	\$1.8	\$19.9	\$3.6	\$0.4	\$0.6	-	\$0.2	-	\$1.1	\$0.3	\$0.5	-	-	\$58.6	\$7.9	\$66.5
Office and Computing Machinery	-	\$0.3	\$26.6	\$1.4	\$0.9	\$1.7	-	\$1.2	-	-	-	-	-	-	-	-	\$27.7	\$4.4	\$32.0
Other Manufacturing, nec.	\$1.1	\$0.4	\$27.7	\$1.3	\$2.5	\$1.1	-	\$0.4	-	-	-	-	-	-	-	-	\$30.5	\$3.2	\$33.7
Parts of Motor Vehicles	-	\$0.4	\$17.4	\$2.2	\$5.8	\$2.6	\$1.0	\$1.6	-	-	-	\$0.3	\$0.3	\$0.9	-	-	\$24.5	\$7.9	\$32.4
Petroleum Refineries	\$5.7	\$3.9	\$2.0	\$0.9	\$10.0	\$0.6	\$4.8	\$0.4	\$3.9	\$0.2	\$0.3	-	\$0.6	-	\$0.5	-	\$22.0	\$2.2	\$24.3
Special Industrial Machinery	\$3.7	\$0.8	\$8.7	\$3.3	\$12.2	\$2.5	\$0.5	\$1.6	-	\$0.7	-	\$0.4	-	\$0.4	-	-	\$21.8	\$9.0	\$30.7
Wearing Apparel	\$13.8	\$5.4	\$34.5	\$1.1	\$2.8	\$1.4	\$0.9	\$0.4	\$1.1	\$0.3	\$1.0	-	-	-	\$2.4	-	\$42.8	\$3.5	\$46.3
Total	\$56.3	\$15.0	\$182	\$25.6	\$79.4	\$17.2	\$22.9	\$7.2	\$16.4	\$2.1	\$5.5	\$2.5	\$2.8	\$2.5	\$18.7	\$0.2	\$327.8	\$57.3	\$385.1

Source: DRI-WEFA Analysis of WCSC Data. Highlighting indicates values greater than 10.0 million metric tons, a dash indicates values less than 0.05 billion dollars

Figure II.6a: U.S. Trade by World Region, 2000
(percent share of seaborne metric tons)

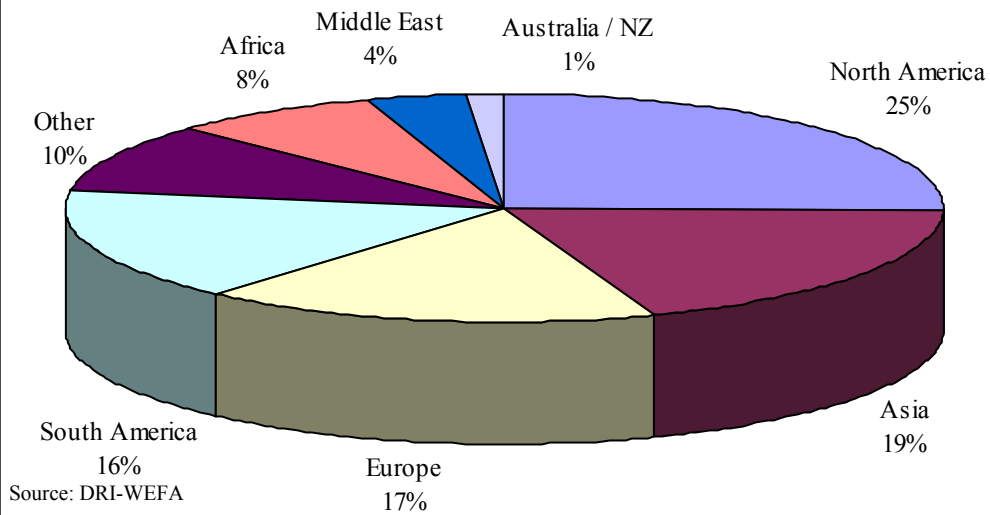
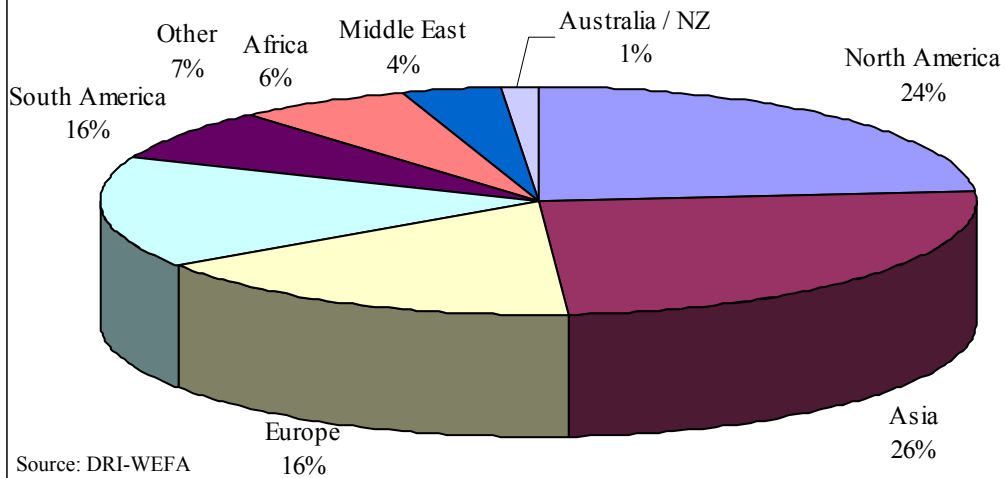


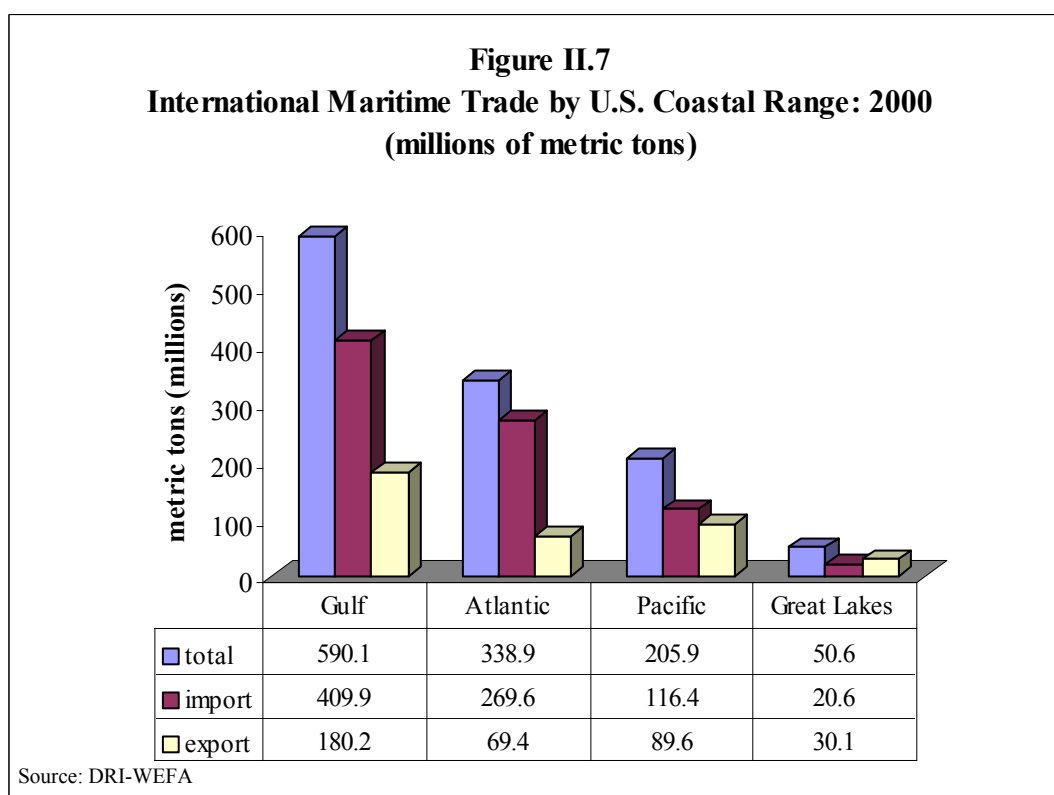
Figure II.6b: U.S. Trade by World Region, 2020
(percent share of seaborne metric tons)



2.3 TRADE FLOW BY COASTAL REGION

As can be seen from Figure II.7, far more trade occurs along the Gulf Coast than in any of the other regions, even when the Atlantic and Pacific regions are not subdivided into northern and southern regions. Interestingly, only the Great Lakes region is a net exporter of tons, and all other U.S. regions import far more tonnage than they export.

Over the course of the forecast, the fastest-growing region in terms of tonnage is the Pacific Coast, which is expected to increase its trade at an average annual rate of 2.0%. The Atlantic is the second-fastest-growing region, at 1.2%. The Gulf Coast and the Great Lakes are respectively expected to grow at 0.7% and 0.4% per annum. Given that the overall growth rate in tonnage traded is 1.1%, this means that the Pacific Coast significantly increases in importance, the Atlantic Coast stays roughly the same, while the Gulf and the Great Lakes diminish in their share of total tons.



Almost all of the change in relative position for the Pacific region is expected to come from imports; its share of total U.S. imports is predicted to increase from 16% to 25% from 2000 to 2050. The Atlantic region follows an opposite pattern; its imports are expected to grow at roughly the same rate as total U.S. imports, whereas its share of total exports is expected to grow from 25% to 29% over the same period. The Gulf region's share of exports does not change much, but its market share of imports is expected to diminish from 52% to 39%. The Great Lakes' share of imports changes little over the forecast, but its share of exports is cut in half, from 4.4% to 2.3%.

When the discussion is shifted from weight to value terms, the relative importance of the coasts changes. Figure II.8 illustrates the ranking of U.S. coasts according to value of trade. In this ordering, the Pacific and Atlantic Coasts are far more substantial in the trade picture. \$849 billion, over 80%, of the total U.S. trade value sails from/into these two coasts. The Gulf Coast contributes 12% to trade value; helped along by imports, which constitute 56% of coastal trade, equivalent to \$109 billion.

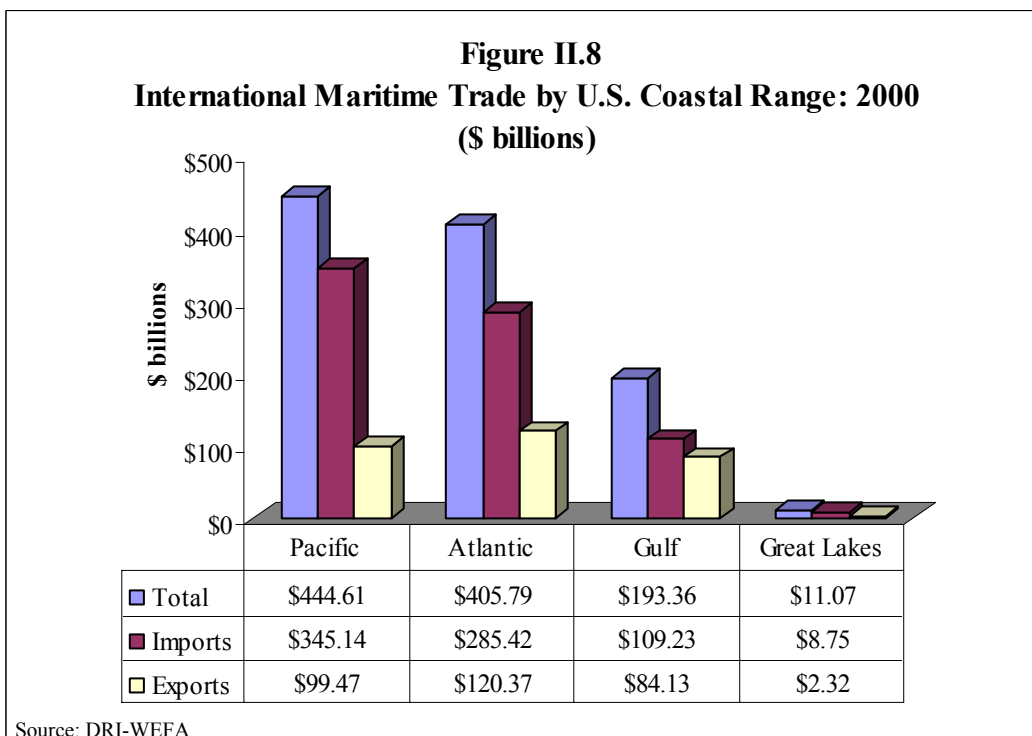


Table II.7 illustrates, by coast, the distribution of market share across coast, tonnage, and value. The Gulf Coast prevails with almost half of the market in tonnage trade, 49.8% or 590 million metric tons. Though not unsubstantial, the value of this trade, at \$193.4 billion, is only 18.3% of all U.S. international seaborne trade. The major contributor to value is the Pacific Coast, trade which is responsible for 42.2% or \$444 billion of all trade value. Trade into this coast accounts for only 17.4% of total tonnage, but alone imports provide 32.7% of trade value. These statistics are in-line considering the high-value, low-weight commodities that are imported along the east-west trade route from Asia to the U.S. The contributions of the Atlantic Coast ports are well balanced between tonnage and value, capturing 28.6% and 38.5% of the market respectively. In 2000, 338.9 million tons of international commodity trade, equivalent to over \$400 billion, flowed through these ports.

Table II.7 Market Share of Total U.S. Trade by Coastal Region in 2000 % Total Tonnage and % Total Dollars						
Coastal Region	Tonnage			Value		
	Total	Imports	Exports	Total	Imports	Exports
Gulf	49.8%	34.6%	15.2%	18.3%	10.4%	9.4%
Atlantic	28.6%	9.8%	5.9%	38.5%	27.1%	11.4%
Pacific	17.4%	22.7%	7.6%	42.2%	32.7%	8.0%
Great Lakes	4.3%	1.7%	2.5%	1.0%	0.8%	0.2%
Total	100.0%	68.9%	31.1%	100.0%	71.0%	29.0%
Source: DRI-WEFA Analysis of WCSC Data						

Gulf Coast

The importance of the Gulf Coast to U.S. trade resides primarily in large quantities of crude petroleum that pass into its ports through the Gulf of Mexico. Trade through the Gulf Coast accounts for 49.8% of all tonnage traded by sea in the United States, and the proportion of imports to exports in the region very nearly matches the proportion for the nation as a whole.

As can be seen from Table II.8, petroleum, both crude and refined, are the commodities with the largest volume of Gulf Coast imports—together, they constitute 76% of imported tonnage in the region. Grain and oil seeds together make up 45% of the Gulf's exports. Other important imports are iron and steel, and ores, both of which are 4% of the region's imported tons. Petroleum refineries (commodities that are products of the refining process), organic chemicals, and residual petroleum products round out the top five exports from the region, the three of them accounting for 26% of tons exported. These imports account for the majority of the trade value flowing through Gulf Coast ports. Over the course of the forecast, petroleum imports are expected to remain roughly the same in terms of tonnage, although they will still dominate the import category.

The origin of the region's imports and the destination of its exports are also shown in Table II.8. The largest share of U.S. imports of crude petroleum, 37.1%, comes from the region "Other." This region consists of the following countries, islands, and territories: Brunei, Cambodia, the Cayman Islands, Fiji, the Falkland Islands, Kiribati, North Korea, Laos, Myanmar, Mongolia, New Caledonia, Papua New Guinea, St. Kitts Nevis, St. Helena, the Solomon Islands, and unidentified lightering areas. As mentioned previously, given the nature of the crude oil trade, it is likely that the trade reported for this region is actually coming from other oil exporting regions, but not identified in the data. For this reason, the representative importance of North Africa and the Middle East to U.S. trade may be somewhat skewed.

Atlantic Coast

Through the ports along the Atlantic Coast flows 28.6% of all U.S. commodity trade by weight. The majority of the 339 billion tons is concentrated in the northern ports; three quarters of the tons shipped through Atlantic Coast ports go through the North Atlantic region (includes the ports of New York, Philadelphia, Norfolk, and Baltimore). Of the \$406 billion generated by trade along this coastal range, 70% result from inbound vessels. This same traffic, furthermore, is responsible for 79% of tonnage trade, or 270 billion metric tons. Not unexpectedly, trade going to and coming from the Asian and European regions dominate Atlantic Coast activity.

Among the top ten commodities (Table II.10), by weight, the most significant commodities shipped through the Atlantic Coast are crude and refined petroleum, coal and coke, and crude minerals--taken alone, crude petroleum and petroleum products account for 87% of total tonnage. Other commodities represented--motor vehicles and wearing apparel, etc.—each have average contributions slightly above 1.1% of total trade. Long-term forecasts, to 2050, show a large change in the imports of several commodities to the East Coast. The categories of other communications equipment, wearing apparel, and refrigerated fruits, vegetables, and eggs are expected to see large annualized rates of growth of 7.3%, 7.4%, and 6.6% respectively between 2000 and 2020 and 4.2%, 4.5%, and 3.9% over the next 50 years.

The second most important contributor to trade value, Atlantic Coast commodity trade, in 2000, amounted to \$405.8 billion. As can be seen from Table II.11, metal products, motor vehicles, special industrial machinery, and wearing apparel are the commodities with the highest shares of Atlantic Coast trade value. Motor vehicles, typically transported by containership, were responsible for \$38 billion (3.5 million metric tons) of commodity trade. Petroleum products are less significant in monetary terms; crude petroleum only produces 9% of trade value by coast and refined products only 8%. The remaining commodities, over 1 million metric tons, capture 72.5% of the Atlantic Coast market by value. Wearing apparel, special industrial machinery, and metal products generate 14.3%, 11.6%, and 13% respectively. These pieces and parts, most often transported by containership, make up 80% of the top ten goods by value.

Table II.8
Gulf Coast Top Ten Trade Commodities by World Region, 2000
 (percent share of tonnage; thousands of metric tons)

Commodity	North America		Asia		Europe		South America		Africa		Middle East		Australia/ NZ		Other		World Total
	Imp	Exp	Imp	Exp	Imp	Exp	Imp	Exp	Imp	Exp	Imp	Exp	Imp	Exp	Imp	Exp	
Crude Petroleum	30.2%	-	0.2%	0.3%	2.1%	-	21.8%	-	2.8%	-	5.4%	-	-	-	37.1%	-	272,350
Iron and Steel	6.7%	0.4%	22.1%	0.4%	39.6%	0.6%	24.1%	0.5%	4.2%	0.3%	-	-	0.9%	-	-	-	18,252
Metal Products	10.5%	4.8%	7.6%	0.4%	27.5%	2.4%	10.4%	3.1%	30.5%	0.4%	0.4%	0.5%	1.4%	-	-	-	1,493
Motor Vehicles	8.8%	21.4%	1.7%	1.7%	41.9%	3.6%	9.2%	5.5%	0.2%	2.3%	-	2.9%	-	0.5%	-	-	254
Office & Computing Machinery	1.7%	3.4%	0.5%	0.2%	21.5%	52.4%	0.5%	18.6%	0.4%	0.5%	-	-	-	-	-	-	32
Other Manufacturing, nec.	10.6%	7.1%	3.8%	20.2%	24.3%	18.5%	2.2%	9.7%	0.5%	0.8%	0.7%	1.2%	-	0.4%	-	-	85
Parts of Motor Vehicles	0.2%	3.1%	1.7%	0.3%	52.7%	8.5%	26.4%	4.8%	0.5%	0.6%	-	1.0%	-	-	-	-	292
Petroleum Refineries	15.2%	26.8%	1.4%	1.4%	20.2%	2.5%	8.3%	1.4%	17.6%	0.4%	1.0%	0.5%	0.4%	-	2.6%	0.3%	57,494
Special Industrial Machinery	1.2%	5.6%	7.3%	8.8%	27.2%	10.7%	5.6%	20.5%	0.6%	7.4%	0.2%	2.2%	-	2.4%	-	-	507
Wearing Apparel	54.7%	33.6%	0.3%	0.3%	2.1%	3.3%	0.8%	2.3%	0.2%	1.2%	0.5%	0.8%	-	-	-	-	440

Source: DRI-WEFA. Highlighting indicates values greater than 15%; a dash indicates values less than 0.2%.

Table II.9
Gulf Coast Top Ten Trade Commodities by World Region, 2000
 (percent share of value; millions of dollars)

Commodity	North America		Asia		Europe		South America		Africa		Middle East		Australia/NZ		Other		World Total
	Imp	Exp	Imp	Exp	Imp	Exp	Imp	Exp	Imp	Exp	Imp	Exp	Imp	Exp	Imp	Exp	
Crude Petroleum	29.1%	-	0.2%	0.3%	2.5%	-	20.7%	-	3.2%	-	5.5%	-	-	-	38.4%	-	\$33,541
Iron and Steel	4.5%	1.2%	26.6%	1.4%	42.4%	2.8%	12.9%	2.5%	3.7%	1.0%	-	0.4%	0.6%	-	-	-	\$10,484
Metal Products	11.2%	3.4%	3.1%	0.4%	14.9%	6.0%	19.2%	2.2%	37.5%	0.6%	-	0.2%	1.0%	-	-	-	\$9,391
Motor Vehicles	10.2%	12.1%	0.9%	1.5%	50.9%	2.5%	12.6%	4.8%	-	1.4%	-	2.2%	-	0.3%	-	-	\$2,337
Office & Computing Machinery	1.8%	8.3%	0.4%	1.2%	19.1%	44.1%	0.5%	19.4%	4.0%	0.8%	-	0.2%	-	0.2%	-	-	\$642
Other Manufacturing, nec.	4.4%	4.9%	3.0%	19.6%	32.5%	25.0%	0.9%	6.3%	0.4%	0.8%	-	1.6%	-	0.3%	-	-	\$864
Parts of Motor Vehicles	-	1.7%	1.2%	-	77.5%	8.6%	4.3%	4.7%	0.2%	0.6%	-	0.5%	-	0.3%	-	-	\$2,465
Petroleum Refineries	11.9%	22.8%	1.0%	1.5%	27.2%	3.3%	5.7%	1.5%	18.2%	1.6%	0.6%	0.5%	1.9%	-	2.0%	0.3%	\$12,035
Special Industrial Machinery	1.1%	5.3%	5.0%	12.0%	32.3%	13.6%	4.3%	15.0%	0.5%	7.2%	-	2.1%	-	1.3%	-	-	\$5,144
Wearing Apparel	53.8%	32.9%	0.3%	0.3%	1.8%	3.8%	0.8%	1.4%	0.2%	3.7%	0.3%	0.6%	-	-	-	-	\$5,054

Source: DRI-WEFA. Highlighting indicates values greater than 15%; a dash indicates values less than 0.2%.

Table II.10
Atlantic Coast Top Ten Trade Commodities by World Region, 2000
(Percent share of tonnage; thousands of metric tons)

Commodity	North America		Asia		Europe		South America		Africa		Middle East		Australia/NZ		Other		World Total
	Imp	Exp	Imp	Exp	Imp	Exp	Imp	Exp	Imp	Exp	Imp	Exp	Imp	Exp	Imp	Exp	
Crude Petroleum	21.3%	-	-	-	24.0%	-	15.6%	-	28.0%	-	0.3%	-	-	-	10.7%	-	107,710
Iron and Steel	3.3%	0.9%	15.0%	1.5%	47.4%	3.1%	24.2%	0.6%	3.0%	-	-	-	0.6%	-	-	-	9,809
Metal Products	5.1%	16.6%	24.6%	15.8%	18.7%	5.8%	3.9%	3.0%	2.2%	0.7%	2.4%	0.8%	-	-	-	-	3,203
Motor Vehicles	3.5%	6.7%	40.1%	1.6%	29.3%	9.8%	0.4%	1.8%	0.3%	0.9%	-	4.1%	-	1.3%	-	-	3,470
Office & Computing Machinery	0.5%	7.2%	29.5%	3.5%	13.5%	18.9%	1.9%	23.2%	-	0.6%	0.3%	0.6%	-	-	-	-	186
Other Manufacturing, nec.	11.8%	2.5%	61.0%	1.1%	11.4%	5.1%	2.2%	2.1%	0.2%	0.3%	0.9%	0.7%	-	0.2%	0.4%	-	1,405
Parts of Motor Vehicles	0.3%	3.7%	10.1%	0.6%	28.9%	14.9%	22.0%	14.2%	1.4%	1.1%	-	2.0%	-	0.7%	-	-	1,750
Petroleum Refineries	25.2%	1.1%	1.1%	-	26.8%	0.4%	34.0%	-	9.0%	-	0.9%	-	-	-	1.2%	-	52,733
Special Industrial Machinery	0.7%	4.8%	21.0%	4.0%	47.6%	9.4%	1.5%	4.9%	1.0%	1.6%	-	1.8%	0.3%	1.4%	-	-	1,497
Wearing Apparel	30.0%	24.7%	21.0%	1.3%	8.4%	3.4%	2.2%	1.5%	3.2%	0.4%	2.9%	0.3%	-	-	0.6%	-	2,169

Source: DRI-WEFA. Highlighting indicates values greater than 15%; a dash indicates values less than 0.2%.

Table II.11
Atlantic Coast Top Ten Trade Commodities by World Region, 2000
(percent share of value; millions of dollars)

Commodity	North America		Asia		Europe		South America		Africa		Middle East		Australia/NZ		Other		World Total
	Imp	Exp	Imp	Exp	Imp	Exp	Imp	Exp	Imp	Exp	Imp	Exp	Imp	Exp	Imp	Exp	
Crude Petroleum	20.3%	-	-	-	26.0%	-	11.3%	-	27.4%	-	0.4%	-	-	-	14.4%	-	\$16,638
Iron and Steel	1.5%	1.4%	23.5%	2.8%	50.0%	8.1%	8.3%	1.1%	1.7%	-	0.3%	0.4%	0.4%	-	-	-	\$12,120
Metal Products	47.9%	6.1%	9.0%	4.4%	15.9%	6.4%	3.4%	2.2%	2.1%	0.6%	1.0%	0.7%	-	-	-	-	\$24,157
Motor Vehicles	3.5%	2.9%	38.2%	1.7%	38.7%	8.9%	0.3%	1.2%	-	0.5%	-	2.8%	-	0.9%	-	-	\$38,485
Office & Computing Machinery	0.5%	6.1%	18.9%	2.7%	16.9%	28.0%	1.1%	23.5%	-	1.1%	0.3%	0.3%	-	0.3%	-	-	\$3,879
Other Manufacturing, nec.	12.0%	3.1%	44.8%	1.9%	21.5%	8.6%	1.6%	2.9%	0.3%	1.0%	0.4%	1.1%	-	0.3%	0.3%	-	\$8,791
Parts of Motor Vehicles	0.3%	3.2%	9.1%	0.8%	33.7%	23.3%	8.5%	14.6%	0.9%	1.3%	-	2.8%	-	1.4%	-	-	\$10,247
Petroleum Refineries	18.1%	4.1%	2.6%	0.4%	37.6%	1.1%	22.7%	0.3%	10.5%	-	1.1%	-	-	-	1.2%	-	\$16,059
Special Industrial Machinery	16.8%	2.3%	14.1%	5.6%	44.7%	7.9%	0.9%	3.5%	-	1.4%	-	1.2%	0.2%	0.9%	-	-	\$21,362
Wearing Apparel	41.3%	13.8%	18.4%	0.7%	9.8%	4.2%	3.1%	0.9%	3.7%	0.3%	2.9%	0.2%	-	-	0.6%	-	\$26,374

Source: DRI-WEFA. Highlighting indicates values greater than 15%; a dash indicates values less than 0.2%.

Pacific Coast

The importance of the Pacific Coast to U.S. trade resides primarily in the convenience related to its proximity to the countries of the Asian region. The flow of high-value, high-volume trade makes this coast the preeminent contributor to U.S. international maritime trade value. Though trade through the West Coast accounts for only 17.4% of all tonnage traded, 42.2% of all value come into and out of its port system. The Pacific Coast, dominated by imports, exports only 7.6% of total tonnage and 8.0% of total value.

As seen with the other coasts, crude oil is the most heavily traded commodity along the Pacific. Grain is also heavily exported from the Pacific Coast, and over 95% of this grain leaves from North Pacific ports. Petroleum refineries, (commodities that are products of the refining process), are by tons the third most-traded commodity, but one-third of total tonnage is exported, leaving on net two-thirds of the total being imported.

Similarly, a disproportionate amount of imports originate from the Asian region—over 85% of imports, by both tonnage and value, enter the West Coast from the east. Tables II.13 and II.14 clearly illustrate the pre-eminence of this trade route, particularly as it relates to the trade of certain commodities. Leading value contributors, office and computing machinery and other manufacturing equipment not elsewhere classified (nec.) make up 75.3% of Pacific Coast value. Whereas petroleum related commodities (crude petroleum and refined products) make up 66.4% of Pacific tonnage, as with other coasts, they contribute little to value (5.8%). Other important imports are motor vehicles, motor vehicle parts, wearing apparel, and special industrial machinery, all which constitute over 80% of that commodities imported tons and value. Petroleum refineries (commodities that are products of the refining process), organic chemicals, and residual petroleum products round out the top five exports from the region, the three of them accounting for 26% of tons exported.

The forecasted change in the Pacific Coast's imports resembles the forecast for the Atlantic. Among the commodities predicted to grow at a rate of 3% or higher over the next 50 years are: apparel, manufacturing not elsewhere classified, refrigerated produce, organic chemicals, wood, and motor vehicle parts. The Pacific Coast's exports show the same pattern of large increases in and refrigerated produce. Additionally, exports of wood products and "other food" items are expected to grow at a rate over 3% throughout the forecast period. Unlike any of the other regions, however, crude petroleum exports are predicted to fall at a rate of 1.3% per annum, and wood and cork exports are expected to decline by 0.9% per year over the forecast horizon.

Great Lakes

The Great Lakes region constitutes what is by far the least-active coastline for international trade in the United States; only 4.3% of tons traded flow through its ports. Naturally, Canada is the major trading partner on this route, receiving 96% of U.S. exports, and shipping 84% of U.S. imports, for a total of 89% of Great Lakes tons traded. (see Tables II.15 and II.16)

Coal and coke comprise the bulk of exports in the region, at 70% of total tonnage, over seven times as much as any other commodity. The import markets are not dominated as much by a single commodity category good, but by five-- stone, clay and crude minerals, ores, iron and steel (most of which comes from Europe), and non-metallic products together make up 88% of

all Great Lakes imports. Of non-Canadian trade, iron and steel are the primary imports, and grain is the main export.

The forecast indicates that the amount of metal products, non-metallic products, and organic chemicals imported will increase significantly, while the amount of ore imported will fall significantly. Of the few commodities exported through the Great Lakes ports, only inorganic chemical exports are expected to undergo a significant increase, while trade in coal and coke, currently the region's largest export, is expected to decline at the rate of 0.8% per annum.

Table II.12
Pacific Coast Top Ten Trade Commodities by World Region, 2000
(Percent share of tonnage; thousands of metric tons)

Commodity	North America		Asia		Europe		South America		Africa		Middle East		Australia/ NZ		Other		World Total
	Imp	Exp	Imp	Exp	Imp	Exp	Imp	Exp	Imp	Exp	Imp	Exp	Imp	Exp	Imp	Exp	
Crude Petroleum	6.8%	-	16.0%	4.3%	-	-	23.3%	-	0.7%	-	39.1%	-	5.9%	-	3.7%	-	33,674
Iron and Steel	9.5%	-	61.2%	3.2%	6.8%	-	10.9%	-	0.2%	-	-	-	7.8%	-	-	-	6,375
Metal Products	6.7%	1.5%	64.1%	23.9%	0.9%	0.3%	-	-	-	-	-	-	1.2%	0.4%	-	-	4,736
Motor Vehicles	1.4%	0.2%	82.8%	4.0%	9.4%	0.5%	-	-	-	-	-	-	0.8%	0.5%	-	0.3%	2,581
Office & Computing Machinery	-	-	95.6%	2.9%	0.3%	0.5%	-	0.3%	-	-	-	-	-	-	-	-	1,646
Other Manufacturing, nec.	-	0.5%	95.9%	1.6%	0.7%	0.3%	-	-	-	-	-	-	-	0.4%	0.4%	-	4,273
Parts of Motor Vehicles	-	0.3%	83.9%	8.1%	1.3%	0.3%	-	-	-	-	-	-	1.8%	4.0%	-	-	2,437
Petroleum Refineries	18.1%	17.1%	24.4%	15.6%	4.9%	-	15.7%	0.3%	0.4%	-	2.0%	-	0.5%	0.3%	0.4%	0.3%	16,105
Special Industrial Machinery	1.0%	0.6%	64.1%	17.6%	8.6%	1.5%	-	1.0%	-	0.6%	-	0.3%	1.7%	2.4%	-	0.2%	599
Wearing Apparel	0.6%	0.5%	87.3%	3.7%	0.5%	0.2%	-	-	0.2%	-	0.8%	-	0.3%	0.3%	5.1%	-	2,527

Source: DRI-WEFA. Highlighting indicates values greater than 15%; a dash indicates values less than 0.2%.

Table II.13
Pacific Coast Top Ten Trade Commodities by World Region, 2000
 (Percent share of value; millions of dollars)

Commodity	North America		Asia		Europe		South America		Africa		Middle East		Australia/NZ		Other		World Total
	Imp	Exp	Imp	Exp	Imp	Exp	Imp	Exp	Imp	Exp	Imp	Exp	Imp	Exp	Imp	Exp	
Crude Petroleum	6.0%	-	17.8%	3.9%	-	-	22.1%	-	0.9%	-	35.4%	-	7.0%	-	6.7%	-	\$4,907
Iron and Steel	3.5%	-	76.9%	7.8%	4.2%	0.8%	2.8%	-	-	-	-	-	3.2%	0.4%	-	-	\$6,584
Metal Products	7.9%	0.5%	46.7%	40.8%	1.1%	0.3%	-	-	-	-	-	-	1.6%	0.5%	-	-	\$27,712
Motor Vehicles	1.0%	-	80.1%	3.8%	13.1%	0.3%	-	-	-	-	-	-	0.9%	0.5%	-	-	\$28,957
Office & Computing Machinery	-	-	92.6%	4.4%	0.4%	1.2%	-	0.4%	-	-	-	-	-	0.3%	0.2%	-	\$27,875
Other Manufacturing, nec.	-	0.3%	92.7%	3.8%	1.1%	0.5%	-	0.2%	-	-	-	-	-	0.6%	0.4%	-	\$25,568
Parts of Motor Vehicles	-	0.3%	81.7%	10.4%	1.8%	0.2%	-	-	-	-	-	-	1.4%	4.0%	-	-	\$20,095
Petroleum Refineries	22.7%	7.6%	25.5%	11.4%	12.5%	-	7.8%	2.9%	-	-	1.0%	-	6.7%	0.8%	0.5%	0.2%	\$5,626
Special Industrial Machinery	0.5%	0.5%	64.5%	18.5%	7.8%	2.1%	0.2%	0.8%	-	0.6%	0.2%	0.4%	1.6%	2.0%	-	-	\$7,900
Wearing Apparel	0.6%	0.4%	86.8%	2.8%	0.4%	0.3%	-	-	0.4%	-	0.8%	-	0.3%	0.2%	6.4%	-	\$34,118

Source: DRI-WEFA. Highlighting indicates values greater than 15%; a dash indicates values less than 0.2%.

Table II.14
Great Lakes Top Ten Trade Commodities by World Region, 2000
(Percent share of tonnage; thousands of metric tons)

Commodity	North America		Asia		Europe		South America		Africa		Middle East		Australia/NZ		Other		World Total
	Imp	Exp	Imp	Exp	Imp	Exp	Imp	Exp	Imp	Exp	Imp	Exp	Imp	Exp	Imp	Exp	
Crude Petroleum	25.3%	74.7%	-	-	-	-	-	-	-	-	-	-	-	-	-	-	48.5
Iron and Steel	6.3%	0.3%	4.9%	-	83.0%	1.1%	4.3%	-	-	-	-	-	-	-	-	-	2,971
Metal Products	30.8%	-	4.8%	-	11.5%	-	-	-	53.0%	-	-	-	-	-	-	-	185
Motor Vehicles	-	-	-	-	100%	-	-	-	-	-	-	-	-	-	-	-	0.072
Office & Computing Machinery	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Other Manufacturing, nec.	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Parts of Motor Vehicles	-	-	-	-	100%	-	-	-	-	-	-	-	-	-	-	-	1,905
Petroleum Refineries	60.8%	39.2%	-	-	-	-	-	-	-	-	-	-	-	-	-	-	487
Special Industrial Machinery	-	5.4%	25.4%	-	47.9%	0.9%	20.4%	-	-	-	-	-	-	-	-	-	18.4
Wearing Apparel	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

Source: DRI-WEFA. Highlighting indicates values greater than 15%; a dash indicates values less than 0.2%.

Table II.15
Great Lakes Top Ten Trade Commodities by World Region, 2000
 (Percent share of value; millions of dollars)

Commodity	North America		Asia		Europe		South America		Africa		Middle East		Australia/NZ		Other		World Total
	Imp	Exp	Imp	Exp	Imp	Exp	Imp	Exp	Imp	Exp	Imp	Exp	Imp	Exp	Imp	Exp	
Crude Petroleum	11.5%	88.5%	-	-	-	-	-	-	-	-	-	-	-	-	-	-	\$16.48
Iron and Steel	11.5%	-	3.0%	-	83.6%	0.9%	1.0%	-	-	-	-	-	-	-	-	-	\$4,507
Metal Products	29.9%	-	8.3%	-	8.2%	-	-	-	53.5%	-	-	-	-	-	-	-	\$1,537
Motor Vehicles	-	-	-	-	100%	-	-	-	-	-	-	-	-	-	-	-	\$0.647
Office & Computing Machinery	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Other Manufacturing, nec.	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Parts of Motor Vehicles	-	-	-	-	100%	-	-	-	-	-	-	-	-	-	-	-	\$38.75
Petroleum Refineries	43.8%	56.2%	-	-	-	-	-	-	-	-	-	-	-	-	-	-	\$116.6
Special Industrial Machinery	-	3.2%	39.3%	-	48.9%	-	8.6%	-	-	-	-	-	-	-	-	-	\$844.6
Wearing Apparel	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

Source: DRI-WEFA. Highlighting indicates values greater than 15%; a dash indicates values less than 0.2%.

2.4 COMMODITY FLOWS BY VESSEL TYPE

In 2000 over 450 millions tons of crude oil were imported into the U.S. by tanker. Consequentially, tanker (i.e. liquid bulk) vessels transported 50% of U.S. total sea trade. U.S. tanker trade was followed in rankings by bulk and container trades, which accounted for 35% and 12% of trade, respectively. Together, these three ship types carried over 90% of U.S. international trade. Other vessel types utilized to an important extent in international trade include general cargo carriers, roll-on–roll-off transports, and barge transports; all together these vessel type categories carried about 78 million metric tons of U.S. sea trade in the year 2000.

While containerized trade is not the predominant method of transportation, it certainly is one of the most dynamic. Containerships' impact on trade lies in the contribution to overall value of trade; carrying mainly high-volume and high-value goods—commodities such as manufactured goods, small electrical parts and equipment, industrial machinery, and other consumer products such as wearing apparel, furniture, etc. Table II.16 illustrates the type and quantity of the top ten containership transported commodities. However, from the forecast and assumptions made about changing demands of the developing countries, this “top ten basket” of goods will change reflecting the shift toward goods transported by ocean containers.

From the forecast and the assumptions made about the changing economies of the developing countries, expect to see this “basket” of goods changing over time. The top ten commodity categories reported for both imports and exports will shift as the volume of goods most efficiently transported by ocean container increases. Manufacturing products account for the largest amount of inbound container trade, over five million metric tons in 2000. Within 25 years, this tonnage will increase to over 20 million tons, as developments in manufacturing worldwide demand progressively higher volumes of sea-borne trade.

Considering the relation between type of commodity transported and the route and direction of trade, it is no surprise that in 2000 U.S.-to-Asia container trade, by weight, accounted for 58% of all U.S. container trade with the world.

The top containerized exports are also highly indicative of the effects of the U.S.-Asia trade on U.S. commodity markets. Refrigerated foods are 16% of outbound U.S. commodity trade. In 2000, waste paper exports have the largest volume of U.S. containerized exports—6 million metric tons. Exports to Asia total almost 1 million tons alone, or 38% of total outbound waste paper. By 2020, in large part due to changing demands of developing world, this commodity is overtaken in market share by miscellaneous products and refrigerated foods (fruits, vegetables, and meats). Once again, the pre-eminence of U.S. trade with Asia is apparent.

Ores, oil seeds, and grains are commodities that are commonly shipped by dry bulk carrier. In 2000, nearly 400 million metric tons of U.S. ocean-borne trade was shipped in dry bulk carriers. The importance of grain exports to the U.S. trade with the world is emphasized in Table II-18. A substantial portion—90%—of U.S. grain is exported using these types of ships and, in total, it amounts to 70 million metric tons of trade. The rate at which oil seeds are exported by dry bulk ship is not expected to change over time, maintaining its 93% share of oil seed exports. World demand for oil seeds, and thus exports by bulk, are expected to increase over time. By 2050, U.S. exports of oil seeds are expected to be the second largest commodity

shipped via bulk carrier—doubling from 25 to 50 million metric tons, and moving up from its present importance as the sixth largest.

The importance of U.S. trade with Asia has been repeatedly emphasized in this report. On this critical trade lane, the majority of imports and exports are moved using container and dry bulk ships, respectively. However, over the course of the forecast, dry bulk carriers are expected to lose market share to container ships. Between 2000 and 2050, containerized exports from the U.S. are predicted to triple while bulk exports steadily decline. The following pages contain detailed information on U.S. trade carried by containerships, bulk vessels, general cargo vessels, and tankers.

Table II.16 Top 10 U.S. Trade Commodities Transported by Containership 2000 and 2020 (Millions of metric tons)				
Export Commodities	Millions of Metric Tons		% Transported by containership	
	2000	2020	2000	2020
Waste Paper	6.14	12.08	96%	97%
Synthetic Resins	5.43	9.10	77%	80%
Paper, Paperboard, and Products	4.32	8.38	70%	74%
Animal Feed	3.59	7.69	32%	35%
Refrigerated Meat/Dairy/Fish	3.18	7.12	68%	74%
Misc.	2.46	9.02	78%	81%
Refrigerated Produce	2.28	7.99	91%	92%
Organic Chemicals	2.04	3.09	13%	14%
Pulp	1.99	3.32	42%	46%
Cork and Wood	1.91	2.04	15%	20%
Import Commodities	Millions of Metric Tons		% Transported by containership	
	2000	2020	2000	2020
Other Manufacturing, nec.	5.17	19.91	95%	96%
Metal Products	4.11	11.41	60%	64%
Furniture and Fixtures	3.98	16.13	97%	98%
Beverages	3.52	6.11	93%	93%
Wearing Apparel	3.40	13.70	82%	82%
Parts of Motor Vehicles	3.15	7.57	91%	91%
Non-Metallic Products, nec.	3.03	7.69	10%	10%
Other Food	2.99	6.07	78%	79%
Refrigerated Produce	2.79	9.68	46%	44%
Iron and Steel	2.60	3.84	7%	7%

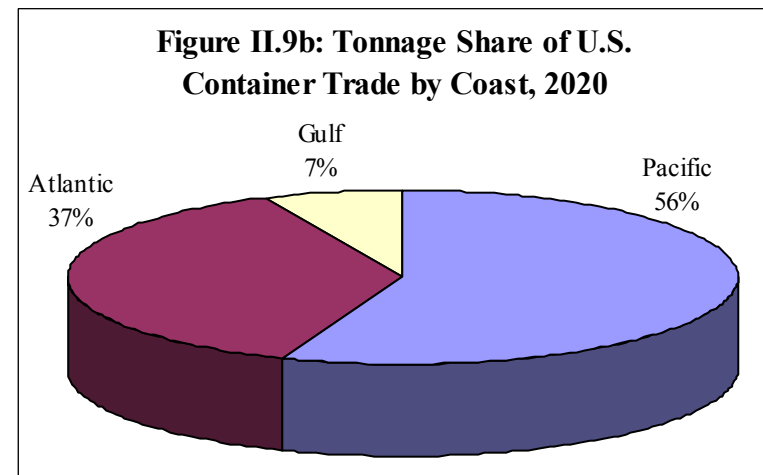
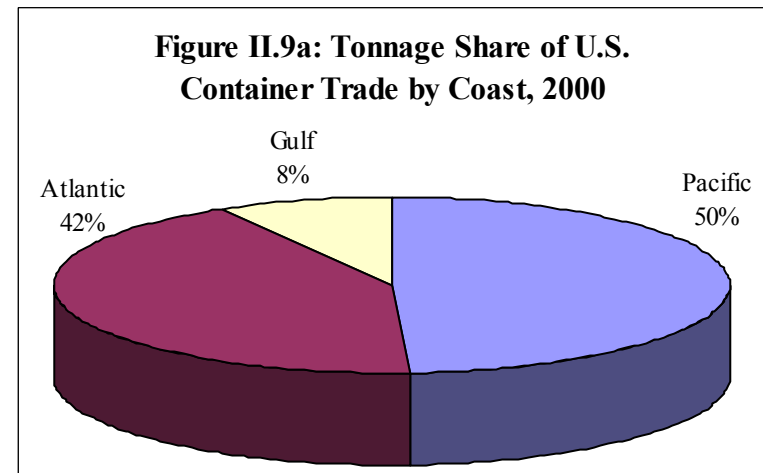


Table II.17 Top 10 U.S. Trade Commodities Transported by General Cargo Vessel 2000 and 2020 (Millions of metric tons)				
Export Commodities	Millions of Metric Tons		% Transported by general cargo	
	2000	2020	2000	2020
Grain	2.21	2.71	3%	3%
Coal and Coke	0.49	2.59	49%	52%
Fertilizers and Pesticides	0.97	1.83	23%	18%
Other Food	0.78	1.56	68%	68%
Crude Minerals	0.44	1.38	14%	12%
Residual Petroleum Products	1.12	1.23	9%	8%
Paper, Paperboard, & Products	0.74	1.18	12%	10%
Oil Seeds	0.72	1.14	8%	9%
Pulp	1.33	1.13	3%	2%
Inorganic Chemicals	0.48	0.88	2%	2%
Import Commodities	Millions of Metric Tons		% Transported by general cargo	
	2000	2020	2000	2020
Iron and Steel	4.48	7.43	87%	87%
Crude Petroleum	3.50	4.97	10%	9%
Non-Ferrous Metals	1.21	2.43	36%	37%
Petroleum Refineries	2.09	2.31	1%	1%
Paper, Paperboard, & Products	0.58	2.19	14%	13%
Crude Minerals	1.12	1.95	26%	24%
Natural Rubber	0.63	1.61	2%	2%
Non-Metallic Products, nec.	0.40	1.56	13%	12%
Other Food	1.09	1.28	1%	1%
Metal Products	0.78	1.21	2%	2%

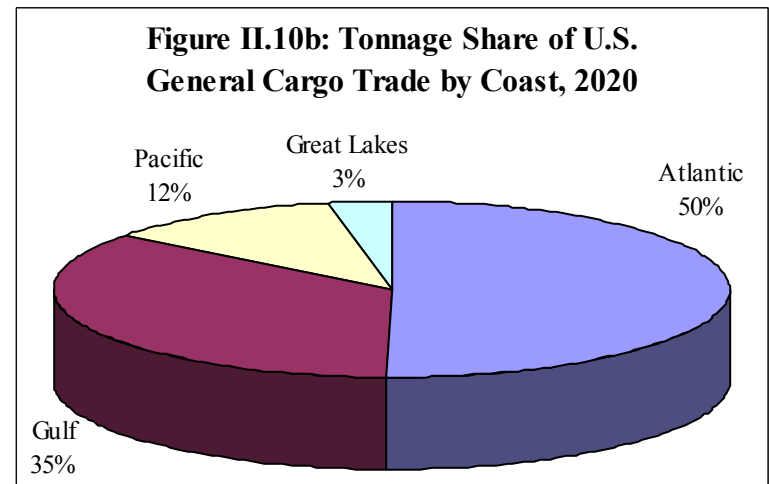
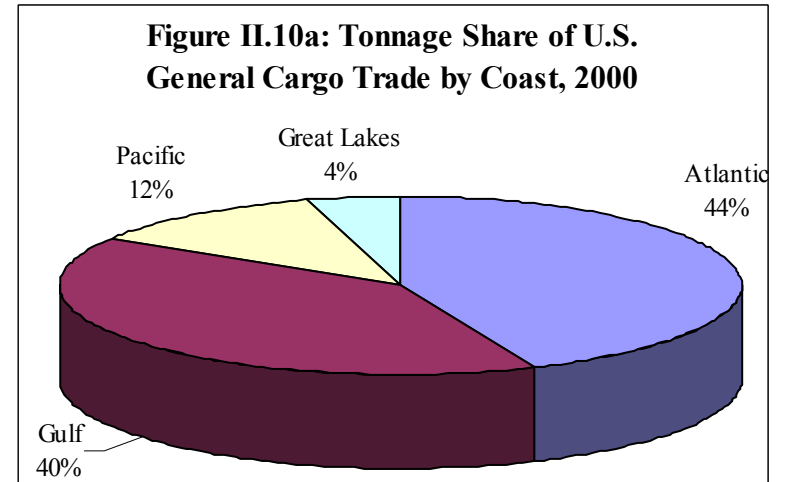


Table II.18 Top 10 U.S. Trade Commodities Transported by Dry Bulk Vessel 2000 and 2020 (Millions of metric tons)				
Export Commodities	Millions of Metric Tons		% Transported by bulk vessel	
	2000	2020	2000	2020
Grain	73.08	84.79	91%	91%
Oil Seeds	26.53	48.66	93%	93%
Coal and Coke	49.31	46.33	97%	97%
Residual Petroleum Products	21.40	27.75	95%	96%
Animal Feed	6.87	12.79	62%	59%
Fertilizers and Pesticides	10.57	12.65	84%	85%
Inorganic Chemicals	6.11	9.62	43%	44%
Crude Minerals	5.60	7.83	64%	63%
Ores	5.59	7.78	96%	97%
Cork and Wood	9.73	7.08	76%	69%
Import Commodities	Millions of Metric Tons		% Transported by bulk vessel	
	2000	2020	2000	2020
Non-Metallic Products, nec.	23.61	59.86	82%	81%
Crude Minerals	37.45	56.43	80%	81%
Iron and Steel	29.13	43.02	81%	81%
Ores	27.69	27.48	98%	98%
Petroleum Refineries	18.97	24.41	19%	19%
Crude Petroleum	19.13	21.42	5%	5%
Coal and Coke	9.57	16.27	96%	96%
Inorganic Chemicals	6.27	11.61	46%	47%
Fertilizers and Pesticides	5.42	6.49	75%	75%
Residual Petroleum Products	6.28	5.23	67%	66%

Figure II.11a: Tonnage Share of U.S. Bulk Vessel Trade by Coast, 2000

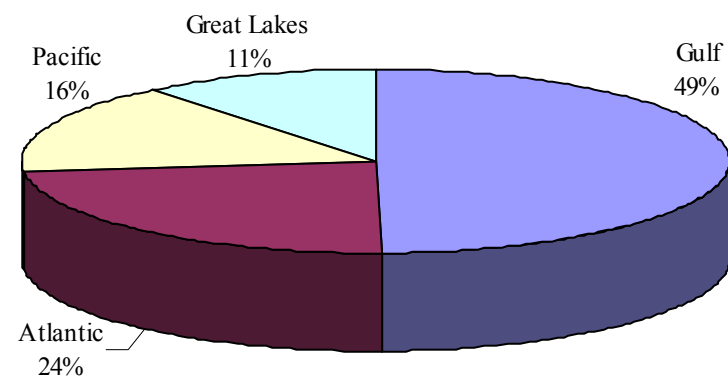


Figure II.11b: Tonnage Share of U.S. Bulk Vessel Trade by Coast, 2020

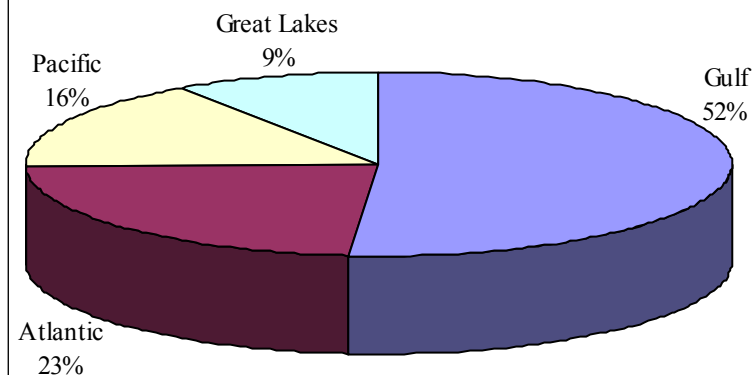
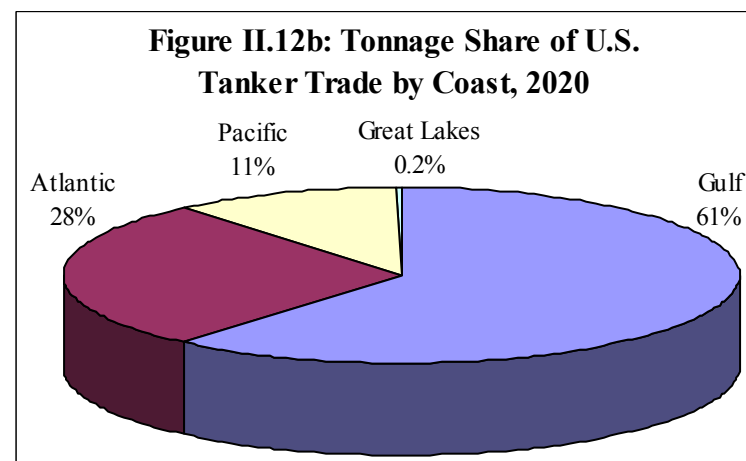
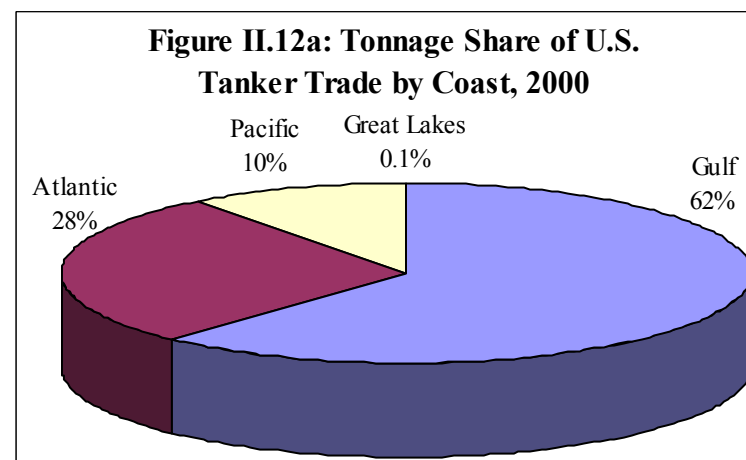
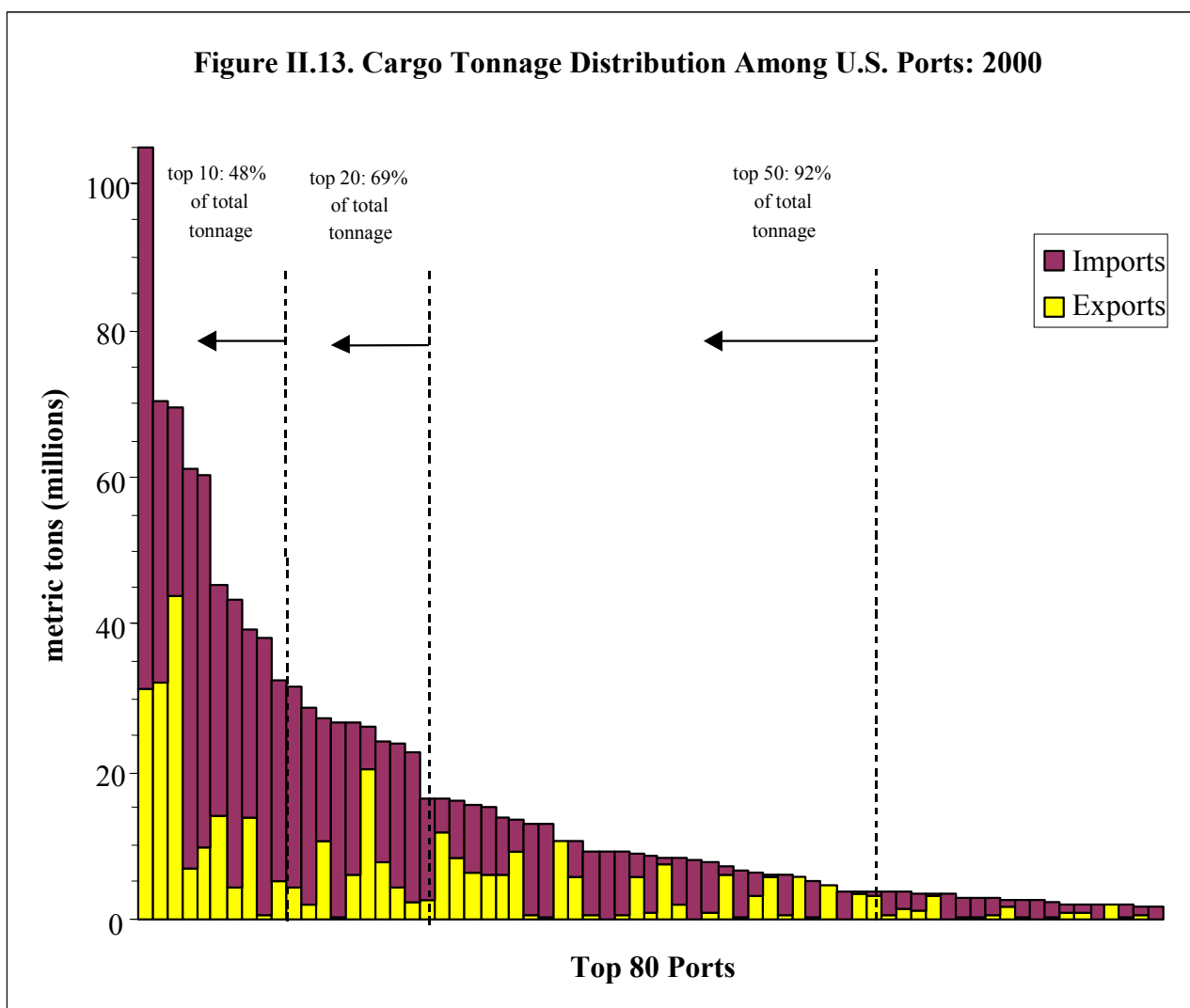


Table II.19 Top 10 U.S. Trade Commodities Transported by Tanker Vessel, 2000 and 2020 (Millions of metric tons)				
Export Commodities	Millions of Metric Tons		% Transported by tanker	
	2000	2020	2000	2020
Petroleum Refineries	23.18	35.70	90%	92%
Organic Chemicals	13.64	18.22	86%	85%
Inorganic Chemicals	6.04	9.12	43%	42%
Animal and Vegetable Oils	2.03	3.86	86%	84%
Natural Gas	2.52	2.95	99%	99%
Chemical Products, nec.	1.14	2.22	33%	39%
Grain	1.66	2.20	2%	2%
Synthetic Resins	1.21	1.81	17%	16%
Crude Petroleum	2.32	1.78	89%	89%
Other Food	0.30	0.91	7%	9%
Import Commodities	Millions of Metric Tons		% Transported by tanker	
	2000	2020	2000	2020
Crude Petroleum	383.15	429.26	93%	93%
Petroleum Refineries	78.73	98.91	78%	77%
Organic Chemicals	12.26	37.23	91%	90%
Inorganic Chemicals	5.81	10.55	43%	42%
Natural Gas	5.11	5.33	86%	85%
Crude Minerals	3.61	5.18	8%	7%
Residual Petroleum Products	2.73	2.42	29%	30%
Animal and Vegetable Oils	1.17	2.12	79%	78%
Fertilizers and Pesticides	1.27	1.52	18%	18%
Sugar	1.29	1.47	44%	45%



2.5 COMMODITY FLOWS AT U.S. PORTS

An important conclusion to be drawn from Waterborne Commerce Statistics data when aggregated by port is the concentration of international seaborne trade among just a few U.S. ports. As can be seen from Figure II.13 and Table II.20, of the total tons of goods traded internationally, 92% pass through 50 U.S. ports, 69% through the top 20, 48% through the top 10, and 32% through the top 5. A full 9.2% of U.S. international sea-borne trade—one hundred and three million tons—is handled through the port of Houston alone. The tonnage volume through Houston is almost 50% more than the volume handled by New Orleans, the second-largest port from a tonnage perspective.



Similarly, trade by value, illustrated jointly in Figure II.14 and Table II.21, is concentrated among the top U.S. ports. In 2000, the busiest port system in California, the ports of Long Beach and Los Angeles, trafficked in over \$250 billion of commodity trade, equivalent to nearly one-quarter of all U.S. trade that year. The top ten ports (included, in addition to the two Californian ports, the Ports of New York/New Jersey, Houston, Tacoma, Charleston, Seattle, Baltimore, New Orleans, and Norfolk) account for 65% of total value, or almost \$550 billion. The top 20 ports, still fairly evenly distributed across Western and Eastern port systems, were responsible for 83% of total value.

Table II.20 Top 50 U.S. Ports by Volume of International Trade, 2000					
Rank	Port	Coastal Region	Metric Tons (millions)	Market Share	Cumulative Market Share
1	Houston, TX	Gulf	105	8.8%	8.8%
2	New Orleans, LA	Gulf	70.5	5.9%	14.8%
3	South Louisiana, LA	Gulf	69.5	5.9%	20.6%
4	New York, NY	North Atlantic	61.2	5.2%	25.8%
5	Corpus Christie, TX	Gulf	60.2	5.1%	30.9%
6	Long Beach, CA	South Pacific	45.4	3.8%	34.7%
7	Beaumont, TX	Gulf	43.5	3.7%	38.4%
8	Los Angeles, CA	South Pacific	39.4	3.3%	41.7%
9	Philadelphia, PA	North Atlantic	38.0	3.2%	44.9%
10	Texas City, TX	Gulf	32.5	2.7%	47.7%
11	Port Arthur, TX	Gulf	28.6	2.4%	50.1%
12	Mobile, AL	Gulf	27.3	2.3%	52.4%
13	Portland, ME	North Atlantic	26.9	2.3%	54.6%
14	Baton Rouge, LA	Gulf	26.8	2.3%	56.9%
15	Lake Charles, TX	Gulf	26.4	2.2%	59.1%
16	Norfolk, VA	North Atlantic	26.2	2.2%	61.3%
17	Baltimore, MD	North Atlantic	24.0	2.0%	63.4%
18	Galveston, TX	Gulf	23.6	2.0%	65.3%
19	Freeport, TX	Gulf	22.8	1.9%	67.3%
20	Pascagoula, MS	Gulf	16.4	1.4%	68.7%
21	Portland, OR	North Pacific	16.4	1.4%	70.0%
22	Tampa, FL	Gulf	16.0	1.4%	71.4%
23	Charleston, SC	South Atlantic	15.5	1.3%	72.7%
24	Savannah, GA	South Atlantic	15.4	1.3%	74.0%
25	Seattle, WA	North Pacific	13.9	1.2%	75.2%
26	Tacoma, WA	North Pacific	13.7	1.2%	76.3%
27	Wilmington, DE	North Atlantic	13.1	1.1%	77.4%
28	Chester, PA	North Atlantic	12.8	1.1%	78.5%
29	Port of Placamine, LA	Gulf	10.6	0.9%	79.4%
30	Newport News, VA	North Atlantic	10.4	0.9%	80.3%
31	Richmond, CA	South Pacific	9.29	0.8%	81.1%
32	Paulsboro, NJ	North Atlantic	9.14	0.8%	81.8%
33	Boston, MA	North Atlantic	9.13	0.8%	82.6%
34	Oakland, CA	South Pacific	8.82	0.7%	83.3%
35	Jacksonville, FL	South Atlantic	8.64	0.7%	84.1%
36	Port Everglades, FL	South Atlantic	8.37	0.7%	84.8%
37	El Segundo, CA	South Pacific	7.80	0.7%	85.4%
38	Honolulu, HI	South Pacific	7.72	0.7%	86.1%
39	Toledo-Sandusky, OH	Great Lakes	7.25	0.6%	86.7%
40	Marcus Hook, PA	North Atlantic	6.71	0.6%	87.3%
41	Miami, FL	South Atlantic	6.50	0.5%	87.8%
42	Conneaut/Ashtabula, OH	Great Lakes	6.16	0.5%	88.3%
43	Kalama, WA	North Pacific	5.94	0.5%	88.8%
44	San Juan, PR	South Atlantic	5.90	0.5%	89.3%
45	Anchorage, AK	North Pacific	5.71	0.5%	89.8%
46	Lake Charles, TX	Gulf	5.15	0.4%	90.2%
47	Detroit, MI	Great Lakes	5.07	0.4%	90.7%
48	Superior, WI	Great Lakes	4.54	0.4%	91.1%
49	Guayanilla, PR	South Atlantic	3.93	0.3%	91.4%
50	Vancouver, WA	North Pacific	3.93	0.3%	91.7%
Total for Top 5 Ports			366.0	30.9%	
Total for Top 10 Ports			565.0	47.7%	
Total for Top 50 Ports			1093.5	92.2%	

Imports show a level of concentration on par with the total data, but exports show an even higher degree of concentration. The three ports from which the most tonnage is exported—

South Louisiana, New Orleans, and Houston—account for 12.4%, 9.1%, and 8.8% of U.S. exports, respectively. A more detailed description of trade through the top ports for both imports and exports will help to better explain the clustering.

The highest volumes by U.S. coast, presented in Table II.22, are directly reflective of the individual commodity trades of those significant regional ports. Fully 85% of tonnage exported from South Louisiana is comprised of grains and oil seeds, of which corn and soybeans dominate the majority. Likewise, 68% of tonnage shipped out of New Orleans is comprised of grain and oil seeds. The composition of Houston's exports is different; no one commodity is traded to such a large relative extent. However, two classes of commodities—oil and chemical products, and agricultural products—together comprise 93% of its exports, with the former comprising 71% and the latter 22% of the total. Petroleum refineries (commodities that are products of the refining process), organic chemicals, and grain are the three largest exports from Houston, but none are nearly as predominant as grain and soybeans are in South Louisiana and New Orleans. Norfolk's exports show a heavy single-commodity bias—73% of its exports are coal and coke. Long Beach and Los Angeles both have one commodity that is traded to a significantly larger extent than any others. Residual petroleum products comprise 29% of Long Beach's exports, while 22% of Los Angeles' exports are coal and coke.

Tables II.23 and II.24 represent the most valuable U.S. ports by coastal region based on their significance to international, rather than domestic, maritime trade. With the exception of the important Gulf Coast ports, it is readily apparent that the ports drawing the highest value in trade would also be among the busiest container ports in the country, if not the world. The numerical rankings in Table II.23 more clearly illustrate this fact. At number 1, by weight and by value, the port of New York/New Jersey tops the list for the Atlantic region and contributes over \$100 billion to regional trade. Also for this region, the ports of Charleston and Baltimore register 2nd and 3rd by value, garnering \$39 and \$47.5 billion respectively. Across the country, value rankings for the Pacific region are lead by the ports of Long Beach and Los Angeles. The total value of trade through the port of Tacoma, the third port in this regions' list, at \$50 billion, is still less than 19% of the top two.

Owing to the forecasted change in the composition of U.S. trade discussed previously, the share of trade going through individual ports is expected to change significantly. In 2050, the top 5 tonnage U.S. ports, from largest to smallest, should be: Long Beach, Houston, Los Angeles, New York, and New Orleans. South Louisiana and Corpus Christi, which are currently 3rd and 4th in significance, are expected to fall to 6th and 7th over the course of the forecast. The forecast shows the tonnage through 5 major ports at least tripling over the course of the forecast; those ports, ranked by growth in descending order, are Oakland, Los Angeles, Miami, Long Beach, and Seattle.

The top eight ports in Texas, which in 2000 account for 30% of U.S. trade, are expected to grow at only 0.5% per year over the next 50 years (0.6 percentage points less than the U.S. average), which means that in 2050 they will represent only 22% of U.S. trade. By contrast, the top 5 west coast ports are expected to increase their total ton throughput by a factor of 3.3, increasing their share of U.S. trade from 11% to 21% over the same time period. The increase in the Pacific Coast's share and the decrease in Texas' share are both predicted to occur at the most rapid pace between 2010 and 2020. While some top Atlantic ports (e.g. Charleston, Port Everglades, and Miami) are expected to grow rapidly over the course of the forecast, others, like New York, Philadelphia, and Norfolk, are expected to grow more slowly than the national average. Thus, the share of U.S. trade held by the top 8 Atlantic ports is expected to grow from

17% to 19% over the life of the forecast. Forecasted import growth for the ports of Long Beach and Los Angeles is such that, by the year 2050, this port system is expected to rank number one in terms of import tonnage, surpassing the Port of Houston. Imports into the top 40 U.S. ports are expected to grow fastest in Los Angeles, Long Beach, Tacoma, Seattle, and Norfolk and slowest in Corpus Christi, Texas City, and Beaumont. The fastest-growing exporting ports are Port Everglades, Miami, Oakland, New York, Seattle, and Long Beach.

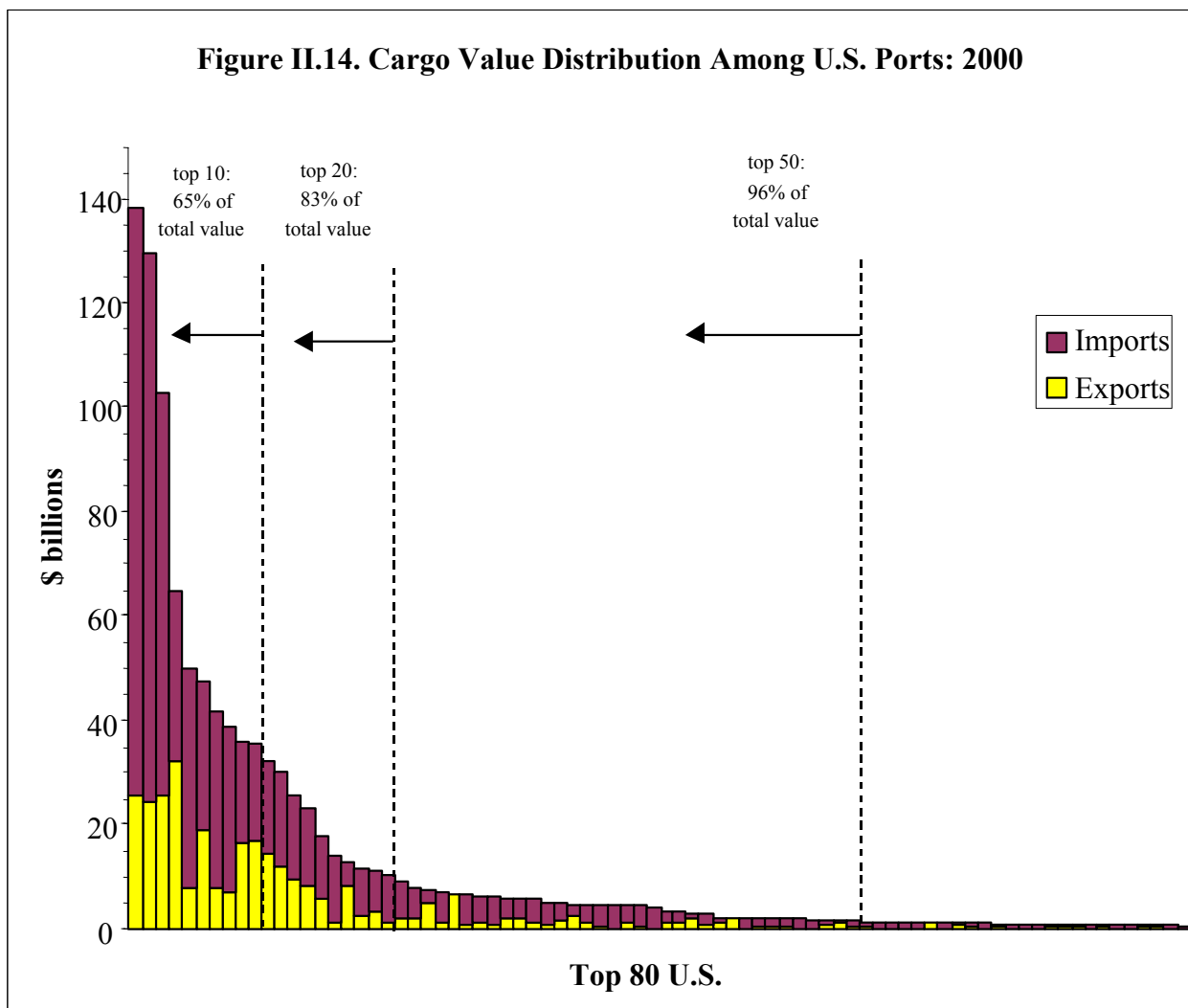


Table II.21 Top 50 U.S. Ports by Value of International Trade, 2000					
Rank	Port	Coastal Region	Trade Value (\$ Billions)	Market Share	Cumulative Market Share
1	Long Beach, CA	South Pacific	138.1	13.1%	13.1%
2	Los Angeles, CA	South Pacific	129.4	12.3%	25.4%
3	New York, NY	North Atlantic	102.8	9.7%	35.1%
4	Houston, TX	Gulf	64.9	6.2%	41.3%
5	Tacoma, WA	North Pacific	50.0	4.7%	46.0%
6	Charleston, SC	South Atlantic	47.5	4.5%	50.5%
7	Seattle, WA	North Pacific	41.9	4.0%	54.5%
8	Baltimore, MD	North Atlantic	38.9	3.7%	58.2%
9	New Orleans, LA	Gulf	36.1	3.4%	61.6%
10	Norfolk, VA	North Atlantic	35.6	3.4%	65.0%
11	Oakland, CA	South Pacific	32.4	3.1%	68.0%
12	Miami, FL	South Atlantic	30.0	2.8%	70.9%
13	Savannah, GA	South Atlantic	25.6	2.4%	73.3%
14	Port Everglades, FL	South Atlantic	23.0	2.2%	75.5%
15	Portland, OR	North Pacific	18.0	1.7%	77.2%
16	Philadelphia, PA	North Atlantic	14.1	1.3%	78.5%
17	South Louisiana, LA	Gulf	12.7	1.2%	79.7%
18	Jacksonville, FL	South Atlantic	11.8	1.1%	80.8%
19	Corpus Christie, TX	Gulf	11.0	1.0%	81.9%
20	San Juan, PR	South Atlantic	10.3	1.0%	82.9%
21	Baton Rouge, LA	Gulf	9.1	0.9%	83.7%
22	Mobile, AL	Gulf	7.6	0.7%	84.5%
23	Tampa, FL	Gulf	7.5	0.7%	85.2%
24	Boston, MA	North Atlantic	6.8	0.6%	85.8%
25	Anchorage, AK	North Pacific	6.7	0.6%	86.4%
26	Beaumont, TX	Gulf	6.6	0.6%	87.1%
27	Wilmington, DE	North Atlantic	6.2	0.6%	87.6%
28	Texas City, TX	Gulf	6.0	0.6%	88.2%
29	Galveston, TX	Gulf	5.8	0.5%	88.8%
30	Chester, PA	North Atlantic	5.7	0.5%	89.3%
31	San Diego, CA	South Pacific	5.2	0.5%	89.8%
32	Lake Charles, TX	Gulf	5.2	0.5%	90.3%
33	Newport News, VA	North Atlantic	5.0	0.5%	90.8%
34	Gulfport, MS	Gulf	4.6	0.4%	91.2%
35	Brunswick, GA	South Atlantic	4.5	0.4%	91.6%
36	Port Hueneme, CA	South Pacific	4.5	0.4%	92.0%
37	Portland, ME	North Atlantic	4.5	0.4%	92.5%
38	Freeport, TX	Gulf	4.4	0.4%	92.9%
39	Port Arthur, TX	Gulf	4.3	0.4%	93.3%
40	Guayanilla, PR	South Atlantic	4.1	0.4%	93.7%
41	Wilmington, NC	South Atlantic	3.4	0.3%	94.0%
42	West Palm Beach, FL	South Atlantic	3.2	0.3%	94.3%
43	Richmond-Petersburg, VA	North Atlantic	2.9	0.3%	94.6%
44	Pascagoula, MS	Gulf	2.8	0.3%	94.9%
45	San Francisco, CA	South Pacific	2.4	0.2%	95.1%
46	Port of Placamine, LA	Gulf	2.3	0.2%	95.3%
47	East Chicago, IN	Great Lakes	2.3	0.2%	95.5%
48	Richmond, CA	South Pacific	2.3	0.2%	95.7%
49	Ponce, PR	South Atlantic	2.2	0.2%	95.9%
50	Honolulu, HI	South Pacific	2.2	0.2%	96.2%
Total for Top 5 Ports			\$ 485.1	46.0%	
Total for Top 10 Ports			\$ 685.1	65.0%	
Total for Top 25 Ports			\$ 911.7	86.4%	
Total for Top 50 Ports			\$ 1014.3	96.2%	

Table II.22 Ports with Most Significant International Tonnage Traffic by Coastal Region, 2000						
Rank	Gulf Coast	Metric tons (millions)	% Imports	% Exports	Regional Market Share	Cumulative Market Share
1	Houston, TX	104.67	70.2%	29.8%	17.7%	17.7%
2	New Orleans, LA	70.47	54.2%	45.8%	11.9%	29.7%
3	South Louisiana, LA	69.49	36.8%	63.2%	11.8%	41.5%
4	Corpus Christie, TX	60.18	84.0%	16.0%	10.2%	51.7%
5	Beaumont, TX	43.54	90.1%	9.9%	7.4%	59.0%
6	Texas City, TX	32.54	84.1%	15.9%	5.5%	64.5%
7	Port Arthur, TX	28.61	92.6%	7.4%	4.8%	69.4%
8	Mobile, AL	27.26	60.3%	39.7%	4.6%	74.0%
9	Baton Rouge, LA	26.78	77.4%	22.6%	4.5%	78.5%
10	Lake Charles, TX	26.44	86.4%	13.6%	4.5%	83.0%
	Gulf Coast Total	590.10				
Rank	Atlantic Coast	Metric tons (millions)	% Imports	% Exports	Regional Market Share	Cumulative Market Share
1	New York, NY	61.23	88.8%	11.2%	18.1%	18.1%
2	Philadelphia, PA	38.05	98.7%	1.3%	11.2%	29.3%
3	Portland, ME	26.87	99.5%	0.5%	7.9%	37.2%
4	Norfolk, VA	26.16	22.2%	77.8%	7.7%	44.9%
5	Baltimore, MD	23.99	68.1%	31.9%	7.1%	52.0%
6	Charleston, SC	15.46	58.2%	41.8%	4.6%	56.6%
7	Savannah, GA	15.36	59.7%	40.3%	4.5%	61.1%
8	Wilmington, DE	13.06	95.8%	4.2%	3.9%	65.0%
9	Chester, PA	12.84	98.2%	1.8%	3.8%	68.8%
10	Newport News, VA	10.37	45.4%	54.6%	3.1%	71.8%
	Atlantic Coast Total	338.91				
Rank	Pacific Coast	Metric tons (millions)	% Imports	% Exports	Regional Market Share	Cumulative Market Share
1	Long Beach, CA	45.44	68.8%	31.2%	22.1%	22.1%
2	Los Angeles, CA	39.40	65.0%	35.0%	19.1%	41.2%
3	Portland, OR	16.41	27.8%	72.2%	8.0%	49.2%
4	Seattle, WA	13.89	55.4%	44.6%	6.7%	55.9%
5	Tacoma, WA	13.65	33.5%	66.5%	6.6%	62.5%
6	Richmond, CA	9.29	93.3%	6.7%	4.5%	67.1%
7	Oakland, CA	8.82	35.7%	64.3%	4.3%	71.3%
8	El Segundo, CA	7.80	100.0%	0.0%	3.8%	75.1%
9	Honolulu, HI	7.72	91.3%	8.7%	3.7%	78.9%
10	Kalama, WA	5.94	4.2%	95.8%	2.9%	81.8%
	Pacific Coast Total	205.92				
Rank	Great Lakes	Metric tons (millions)	% Imports	% Exports	Regional Market Share	Cumulative Market Share
1	Toledo-Sandusky, OH	7.25	16.4%	83.6%	14.3%	14.3%
2	Conneaut/Ashtabula, OH	6.16	17.9%	82.1%	12.2%	26.5%
3	Detroit, MI	5.07	96.8%	3.2%	10.0%	36.5%
4	Superior, WI	4.54	0.2%	99.8%	9.0%	45.5%
5	Chicago, IL	3.66	86.9%	13.1%	7.2%	52.7%
6	Duluth, MN	3.34	10.9%	89.1%	6.6%	59.3%
7	Cleveland, OH	2.78	90.9%	9.1%	5.5%	64.8%
8	East Chicago, IN	2.27	84.0%	16.0%	4.5%	69.3%
9	Sandusky, OH	1.97	1.4%	98.6%	3.9%	73.2%
10	Conneaut, OH	1.93	0.0%	100.0%	3.8%	77.0%
	Great Lakes Total	50.62				

Table II.23 Ports with Most Valuable International Traffic by Coastal Region, 2000						
Rank	Gulf Coast	Value (\$ Billions)	% Imports	% Exports	Regional Market Share	Cumulative Market Share
1	Houston, TX	64.92	50.1%	49.9%	33.6%	33.6%
2	New Orleans, LA	36.05	54.7%	45.3%	18.6%	52.2%
3	South Louisiana, LA	12.68	33.7%	66.3%	6.6%	58.8%
4	Corpus Christie, TX	11.04	70.8%	29.2%	5.7%	64.5%
5	Baton Rouge, LA	9.10	74.3%	25.7%	4.7%	69.2%
6	Mobile, AL	7.65	69.3%	30.7%	4.0%	73.2%
7	Tampa, FL	7.47	31.6%	68.4%	3.9%	77.0%
8	Beaumont, TX	6.58	87.3%	12.7%	3.4%	80.4%
9	Texas City, TX	5.98	63.6%	36.4%	3.1%	83.5%
10	Galveston, TX	5.76	63.3%	36.7%	3.0%	86.5%
	Gulf Coast Total	193.36				
Rank	Atlantic Coast	Value (\$ Billions)	% Imports	% Exports	Regional Market Share	Cumulative Market Share
1	New York, NY	102.75	75.0%	25.0%	25.3%	25.3%
2	Charleston, SC	47.51	60.2%	39.8%	11.7%	37.0%
3	Baltimore, MD	38.89	82.4%	17.6%	9.6%	46.6%
4	Norfolk, VA	35.63	52.5%	47.5%	8.8%	55.4%
5	Miami, FL	29.99	59.3%	40.7%	7.4%	62.8%
6	Savannah, GA	25.57	62.9%	37.1%	6.3%	69.1%
7	Port Everglades, FL	23.03	63.3%	36.7%	5.7%	74.8%
8	Philadelphia, PA	14.10	92.1%	7.9%	3.5%	78.2%
9	Jacksonville, FL	11.83	78.0%	22.0%	2.9%	81.2%
10	San Juan, PR	10.27	85.5%	14.5%	2.5%	83.7%
	Atlantic Coast Total	405.79				
Rank	Pacific Coast	Value (\$ Billions)	% Imports	% Exports	Regional Market Share	Cumulative Market Share
1	Long Beach, CA	138.09	81.4%	18.6%	31.1%	31.1%
2	Los Angeles, CA	129.35	81.2%	18.8%	29.1%	60.2%
3	Tacoma, WA	50.02	84.4%	15.6%	11.3%	71.4%
4	Seattle, WA	41.92	81.2%	18.8%	9.4%	80.8%
5	Oakland, CA	32.40	56.1%	43.9%	7.3%	88.1%
6	Portland, OR	17.99	68.3%	31.7%	4.0%	92.2%
7	Anchorage, AK	6.68	0.0%	100.0%	1.5%	93.7%
8	San Diego, CA	5.19	87.4%	12.6%	1.2%	94.8%
9	Port Hueneme, CA	4.46	95.0%	5.0%	1.0%	95.8%
10	San Francisco, CA	2.37	48.0%	52.0%	0.5%	96.4%
	Pacific Coast Total	444.61				
Rank	Great Lakes	Value (\$ Billions)	% Imports	% Exports	Regional Market Share	Cumulative Market Share
1	East Chicago, IN	2.30	98.2%	1.8%	20.8%	20.8%
2	Detroit, MI	1.99	95.8%	4.2%	18.0%	38.7%
3	Conneaut/Ashtabula, OH	1.56	87.0%	13.0%	14.1%	52.9%
4	Cleveland, OH	1.47	99.6%	0.4%	13.3%	66.2%
5	Toledo-Sandusky, OH	0.90	38.9%	61.1%	8.1%	74.3%
6	Chicago, IL	0.80	89.8%	10.2%	7.2%	81.5%
7	Duluth, MN	0.42	8.3%	91.7%	3.8%	85.2%
8	Superior, WI	0.41	0.1%	99.9%	3.7%	88.9%
9	Gary, IN	0.29	82.7%	17.3%	2.6%	91.5%
10	Milwaukee, WI	0.27	84.8%	15.2%	2.4%	93.9%
	Great Lakes Total	11.07				

Table II.24 Most Significant U.S. Ports by International Tonnage, Value, and Coastal Region, 2000					
Atlantic Coast	Tonnage Rank	Value Rank	Pacific Coast	Tonnage Rank	Value Rank
New York, NY	1	1	Long Beach, CA	1	1
Philadelphia, PA	2	8	Los Angeles, CA	2	2
Portland, ME	3	16	Portland, OR	3	6
Norfolk, VA	4	4	Seattle, WA	4	4
Baltimore, MD	5	3	Tacoma, WA	5	3
Charleston, SC	6	2	Richmond, CA	6	11
Savannah, GA	7	6	Oakland, CA	7	5
Wilmington, DE	8	12	El Segundo, CA	8	15
Chester, PA	9	13	Honolulu, HI	9	12
Newport News, VA	10	14	Kalama, WA	10	16
Jacksonville, FL	13	9	Anchorage, AK	11	7
Port Everglades, FL	14	7	San Francisco, CA	14	10
Miami, FL	16	5	San Diego, CA	15	8
San Juan, PR	17	10	Port Hueneme, CA	23	9
Aggregate Share of Atlantic Coast Cargo	80.5%	88.9%	Aggregate Share of Pacific Coast Cargo	88.1%	97.9%
Gulf Coast	Tonnage Rank	Value Rank	Great Lakes	Tonnage Rank	Value Rank
Houston, TX	1	1	Toledo-Sandusky, OH	1	5
New Orleans, LA	2	2	Conneaut/Ashtabula, OH	2	3
Gramercy, LA	3	3	Detroit, MI	3	2
Corpus Christie, TX	4	4	Superior, WI	4	8
Beaumont, TX	5	8	Chicago, IL	5	6
Texas City, TX	6	9	Duluth, MN	6	7
Port Arthur, TX	7	14	Cleveland, OH	7	4
Mobile, AL	8	6	East Chicago, IN	8	1
Baton Rouge, LA	9	5	Sandusky, OH	9	12
Lake Charles, TX	10	11	Conneaut, OH	10	13
Galveston, TX	11	10	Milwaukee, WI	14	10
Tampa, FL	14	7	Gary, IN	23	9
Aggregate Share of Gulf Coast Cargo	89.7%	91.4%	Aggregate Share of Great Lakes Cargo	80.0%	95.3%

2.6 COMMODITY FLOWS BY TRADE ROUTE

Figure II.15 illustrates the top 175 foreign cargo ports ranked according to quantity of trade with the U.S. in 2000. Since 1996, cargo traveling between U.S. and foreign ports has become even more heavily concentrated among the largest foreign ports. Asian and European ports continue to play a significant role in U.S. cargo trade. In terms of tons (Table II.25), Cayo Arcos (Mexico) is the largest foreign port, capturing 48 million tons of U.S. cargo trade. The accompanying figure, II-16, represents a similar ranking in value terms. As with cargo, the value of U.S. international cargo trade is concentrated in a small number of foreign ports. The top ten ports account for 33% of total value. Of the total value of U.S. international trade, the top 50 ports account for \$688 billion, the top 25 for \$542 billion, and the top 5, \$274 billion U.S. As shown in Table II.26, the number 1 ranked port of Hong Kong accounts for 10.5% of total value, generating almost 26% of the \$400 billion captured by the top ten ports alone.

In the coming years, as China's economy enters the World Trade Organization, ports in this region will become more critical to U.S. international trade of goods and services. At the moment, the high level of U.S. trade that passes through Asian ports is in large part due to more American grain being exported to Asia than to any other region. Grain exports received through the port of Tokyo still account for nearly 20% of all U.S. exports, in tonnage, of this commodity. By weight, grain trade through other Asian ports, such as Kaosuing and Kobe, has increased by approximately 0.5% in recent history. Oil seeds and organic chemicals also retain a large share of the tonnage exported from U.S. to Asia. Exports to the port of Kaosuing, Korea alone are over 4.3% of the total U.S. market. (See Table II.27). In terms of value, imports to the U.S. are strongly led by the port of Hong Kong, with 12.265% of total import value. Of U.S. imports of drugs and medicine by value, an overwhelming 81.5% originates at the port of Hong Kong.

Table II.28 represents the top 5 commodities at a select group of foreign ports by value, rather than tonnage. In 2000, \$306 billion and \$749 billion of trade flowed from the U.S. into and out of foreign ports. Foreign demand for our manufactured commodities and luxury food items increased U.S. exports to the world. Of the selected ports, the largest portion of foreign destined exports, 5.8%, went to Antwerp. Representative of the goods that typically flow to Europe, the commodity basket included synthetic resins, organic and inorganic chemicals, machinery and equipment, and professional equipment. As European economies are similar in composition to our domestic economy, it is not surprising that these market baskets, in either direction and for both Antwerp and Bremerhaven, are reflective of one another.

Tables II.29 and II.30 illustrate the top foreign ports by U.S. coastal range. Generally, these tables illustrate that, each coast trades significantly with the foreign ports related by proximity. For instance, the Atlantic Coast is dominated by traffic originating from North and South America, while 31% of Pacific traffic originates from the top Asian ports. The Great Lakes is an exception and less illustrative of reality; the majority of the tonnage, though counted as originating in Canada, has been transshipped from other foreign ports.

Figure II.15: U.S. Cargo Distribution at the Top 175 Foreign Ports, 2000 (millions of metric tons)

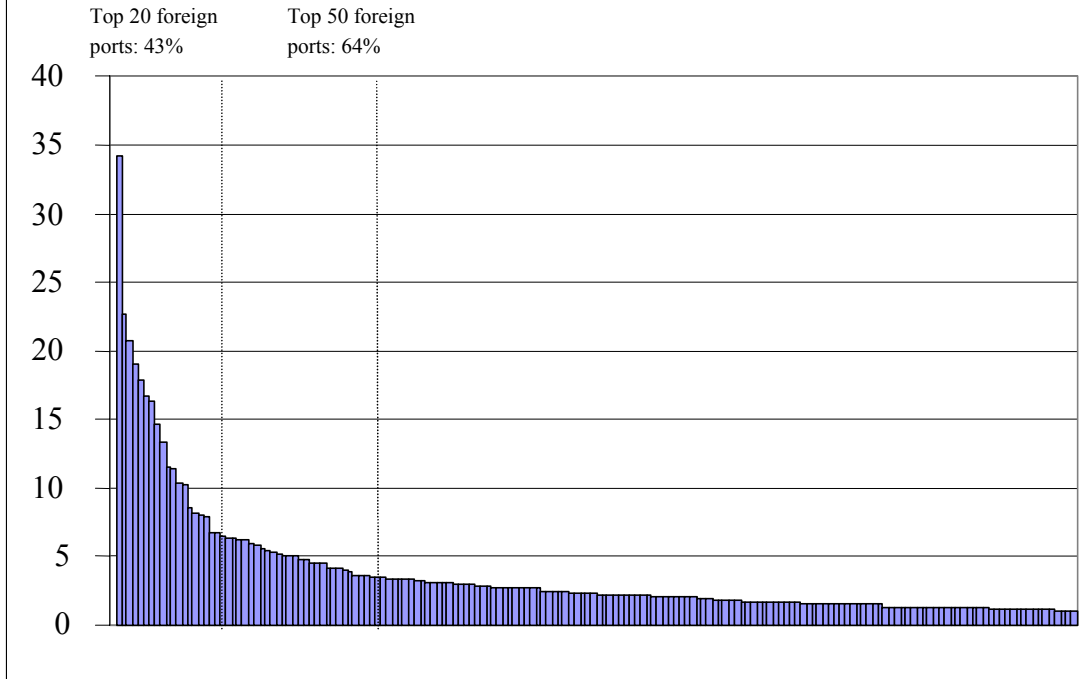


Figure II.16: U.S. Cargo Distribution at the Top 175 Foreign Ports, 2000 (\$ billions)

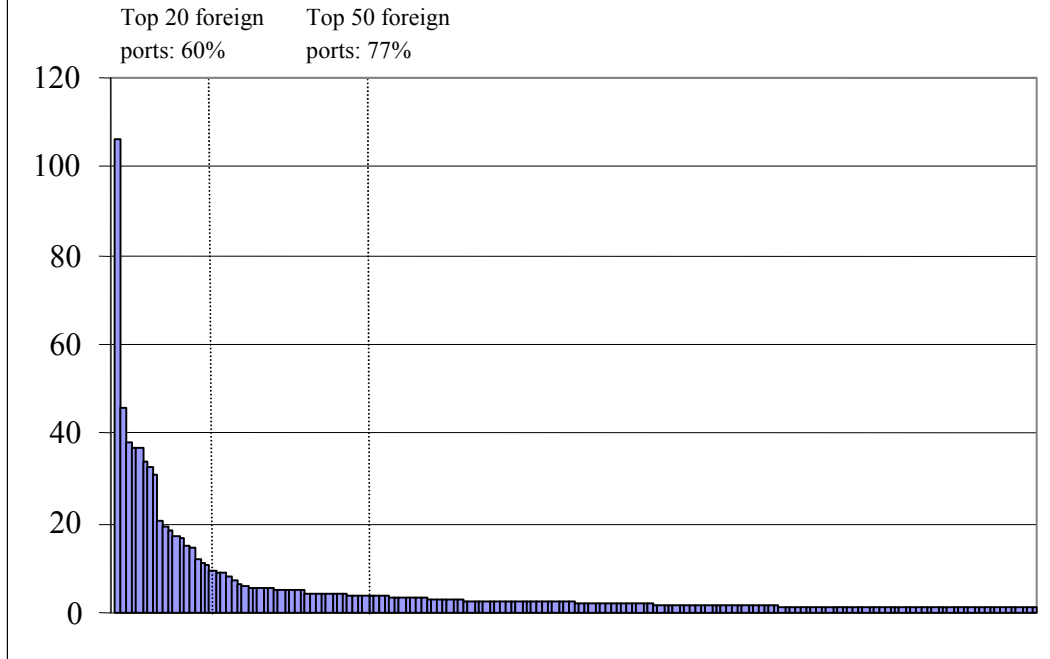


Table II.25
Top 50 Foreign Ports Handling U.S. Cargo by Volume of Trade, 2000

Rank	Port	Nation	World Region	Tonnage (Millions)	Market Share of U.S. Cargo	Cumulative Market Share
1	Cayo Arcos	Mexico	North America	47.9	4.6%	4.6%
2	Puerto La Cruz	Venezuela	South America	35.6	3.4%	7.9%
3	Tokyo	Japan	Asia	22.7	2.2%	10.1%
4	Pajaritos	Mexico	North America	20.8	2.0%	12.1%
5	Kaohsiung	Taiwan	Asia	19.3	1.8%	13.9%
6	Hong Kong	Hong Kong	Asia	18.2	1.7%	15.6%
7	Covenas	Colombia	South America	18.1	1.7%	17.3%
8	Rotterdam	Netherlands	Europe	16.8	1.6%	18.9%
9	Antwerp	Belgium	Europe	15.2	1.4%	20.4%
10	Yantian	China	Asia	14.7	1.4%	21.8%
11	Sullom Voe	United Kingdom	Europe	13.1	1.2%	23.0%
12	Kwangyang	South Korea	Asia	12.7	1.2%	24.2%
13	Saint Eustatius	Netherlands Antilles	North America	12.2	1.2%	25.4%
14	Tomakomai	Japan	Asia	11.9	1.1%	26.5%
15	Singapore	Singapore	Asia	11.7	1.1%	27.6%
16	Amuay	Venezuela	South America	10.6	1.0%	28.6%
17	Busan	South Korea	Asia	10.6	1.0%	29.6%
18	Windsor	Canada	North America	10.1	1.0%	30.6%
19	San Jose	Venezuela	South America	9.8	0.9%	31.5%
20	Nanticoke	Canada	North America	9.7	0.9%	32.4%
21	Laem Chabang	Thailand	Asia	9.1	0.9%	33.3%
22	Coatzacoalcos	Mexico	North America	8.5	0.8%	34.1%
23	La Salina	Venezuela	South America	8.5	0.8%	34.9%
24	Puerto Miranda	Venezuela	South America	8.4	0.8%	35.7%
25	Carmen	Mexico	North America	8.1	0.8%	36.5%
26	Victoria	Brazil	South America	7.9	0.8%	37.2%
27	Tuxpan	Mexico	North America	7.8	0.7%	38.0%
28	Aruba	Aruba	North America	7.5	0.7%	38.7%
29	Mongstad	Norway	Europe	7.5	0.7%	39.4%
30	Point Tupper	Canada	North America	7.4	0.7%	40.1%
31	Damietta	Egypt	Africa	7.1	0.7%	40.8%
32	Vera Cruz	Mexico	North America	7.0	0.7%	41.5%
33	Cabinda	Angola	Africa	6.7	0.6%	42.1%
34	Qua Iboe	Nigeria	Africa	6.7	0.6%	42.7%
35	Yokohama	Japan	Asia	6.5	0.6%	43.4%
36	Mina Al Bakr	Iraq	Middle East	6.5	0.6%	44.0%
37	Escravos	Nigeria	Africa	6.3	0.6%	44.6%
38	Goto Oil Terminal	Netherlands Antilles	North America	6.3	0.6%	45.2%
39	Kobe	Japan	Asia	6.3	0.6%	45.8%
40	Inchon	South Korea	Asia	6.2	0.6%	46.4%
41	Port Hawkesbury	Canada	North America	6.1	0.6%	46.9%
42	Shanghai	China	Asia	6.0	0.6%	47.5%
43	Darien	China	Asia	5.9	0.6%	48.1%
44	Bremerhaven	Germany	Europe	5.7	0.5%	48.6%
45	Esmaldas	Ecuador	South America	5.6	0.5%	49.1%
46	Freeport	Bahamas	North America	5.5	0.5%	49.7%
47	Skikda	Algeria	Africa	5.4	0.5%	50.2%
48	Santos	Brazil	South America	5.3	0.5%	50.7%
49	Point Lisas	Trinidad And Tobago	North America	5.1	0.5%	51.2%
50	Pointe Noire	Canada	North America	5.0	0.5%	51.6%
	Total Top 50 Ports			543.8	51.6%	
	Total Top 175 Ports			856.3	81.3%	

Table II.26
Top 50 Foreign Ports Handling U.S. Cargo by Value of Trade

Rank	Port	Nation	World Region	\$ (Billions)	Market Share of U.S. Cargo	Cumulative Market Share
1	Hong Kong	Hong Kong	Asia	\$108.3	10.5%	10.5%
2	Kaohsiung	Taiwan	Asia	\$48.0	4.6%	15.1%
3	Busan	South Korea	Asia	\$41.2	4.0%	19.1%
4	Singapore	Singapore	Asia	\$39.2	3.8%	22.9%
5	Bremerhaven	Germany	Europe	\$37.4	3.6%	26.5%
6	Antwerp	Belgium	Europe	\$34.4	3.3%	29.8%
7	Tokyo	Japan	Asia	\$33.2	3.2%	33.1%
8	Rotterdam	Netherlands	Europe	\$32.5	3.1%	36.2%
9	Yantian	China	Asia	\$22.4	2.2%	38.4%
10	Nagoya	Japan	Asia	\$21.4	2.1%	40.4%
11	Yokohama	Japan	Asia	\$19.8	1.9%	42.4%
12	Kobe	Japan	Asia	\$19.3	1.9%	44.2%
13	Shanghai	China	Asia	\$16.7	1.6%	45.8%
14	Durban	South Africa	Africa	\$15.5	1.5%	47.3%
15	Felixstowe	United Kingdom	Europe	\$11.9	1.2%	48.5%
16	Toyohashi	Japan	Asia	\$11.9	1.1%	49.6%
17	Puerto Cortes	Honduras	North America	\$11.5	1.1%	50.8%
18	Kwangyang	South Korea	Asia	\$11.4	1.1%	51.9%
19	Santo Tomas	Guatemala	North America	\$9.45	0.9%	52.8%
20	Le Havre	France	Europe	\$9.31	0.9%	53.7%
21	Santos	Brazil	South America	\$9.04	0.9%	54.6%
22	Osaka	Japan	Asia	\$8.17	0.8%	55.3%
23	Laem Chabang	Thailand	Asia	\$8.03	0.8%	56.1%
24	Haina	Dominican Republic	North America	\$7.86	0.8%	56.9%
25	Tomakomai	Japan	Asia	\$7.76	0.8%	57.6%
26	Cayo Arcos	Mexico	North America	\$6.82	0.7%	58.3%
27	Gioia Tauro	Italy	Europe	\$6.54	0.6%	58.9%
28	Hamburg	Germany	Europe	\$6.43	0.6%	59.6%
29	Thamesport	United Kingdom	Europe	\$6.28	0.6%	60.2%
30	Liverpool	United Kingdom	Europe	\$6.26	0.6%	60.8%
31	Freeport	Bahamas	North America	\$5.75	0.6%	61.3%
32	Richards Bay	South Africa	Africa	\$5.73	0.6%	61.9%
33	Port Klang	Malaysia	Asia	\$5.41	0.5%	62.4%
34	Algeciras	Spain	Europe	\$5.23	0.5%	62.9%
35	Buenos Aires	Argentina	South America	\$5.14	0.5%	63.4%
36	Emden	Germany	Europe	\$5.04	0.5%	63.9%
37	Suape	Brazil	South America	\$4.97	0.5%	64.4%
38	Punta Monzami	Panama	North America	\$4.93	0.5%	64.8%
39	Genoa	Italy	Europe	\$4.89	0.5%	65.3%
40	Vera Cruz	Mexico	North America	\$4.80	0.5%	65.8%
41	Zeebrugge	Belgium	Europe	\$4.79	0.5%	66.2%
42	Melbourne	Australia	Australia / NZ	\$4.60	0.4%	66.7%
43	St Petersburg	Russia	Europe	\$4.52	0.4%	67.1%
44	Chiba	Japan	Asia	\$4.52	0.4%	67.6%
45	Puerto Limon	Costa Rica	North America	\$4.52	0.4%	68.0%
46	Jawaharlal Nehru	India	Asia	\$4.39	0.4%	68.4%
47	Puerto La Cruz	Venezuela	South America	\$4.21	0.4%	68.8%
48	Puerto Cabello	Venezuela	South America	\$4.02	0.4%	69.2%
49	Colombo	Sri Lanka	Asia	\$3.94	0.4%	69.6%
50	Inchon	South Korea	Asia	\$3.93	0.4%	70.0%
Total Top 50 Ports				\$723.3	70.0%	
Total Top 175 Ports				\$941.7	91.1%	

Table II.27 Top Five U.S. Trade Commodities at Major Foreign Ports, 2000 (millions of metric tons)					
U.S. Exports	Tonnage	% of U.S. Exports	U.S. Imports	Tonnage	% of U.S. Imports
Tokyo, Japan					
Grain	13.82	17.3%	Parts of Motor Vehicles	0.42	12.2%
Oil Seeds	2.69	9.4%	Machinery and Equipment, nec.	0.12	4.7%
Coal and Coke	0.75	1.5%	Synthetic Resins	0.09	3.6%
Animal Feed	0.53	22.2%	Motor Vehicles	0.08	1.6%
Meat/Dairy/Fish Requiring Refrigeration	0.41	8.7%	Office and Computing Machinery	0.07	4.3%
Total Tonnage: Top 5 Commodities	18.19	5.1%	Total Tonnage: Top 5 Commodities	0.79	0.2%
Total Tonnage: U.S. Exports to Tokyo	20.91	5.9%	Total Tonnage: U.S. Imports to Tokyo	1.83	0.5%
Rotterdam, Holland					
Oil Seeds	1.81	6.4%	Beverages	1.03	27.3%
Coal and Coke	1.40	2.8%	Organic Chemicals	0.91	6.7%
Organic Chemicals	1.38	8.7%	Petroleum Refineries	0.71	0.7%
Residual Petroleum Products	0.96	4.3%	Iron and Steel	0.63	1.7%
Animal Feed	0.59	24.7%	Paper, Paperboard & Products	0.36	8.2%
Total Tonnage: Top 5 Commodities	6.14	1.7%	Total Tonnage: Top 5 Commodities	3.64	1.0%
Total Tonnage: U.S. Exports to Rotterdam	10.11	2.9%	Total Tonnage: U.S. Imports to Rotterdam	6.72	1.8%
Kaohsiung, Taiwan					
Grain	3.61	4.5%	Metal Products	1.09	16.1%
Oil Seeds	1.24	4.3%	Iron and Steel	0.97	2.7%
Organic Chemicals	1.19	7.5%	Furniture and Fixtures	0.73	50.4%
Waste Paper	0.77	12.1%	Other Meat/Dairy/Fish/Fruit/Vegetables	0.45	17.6%
Animal Feed	0.42	17.7%	Other Manufacturing, nec.	0.43	8.0%
Total Tonnage: Top 5 Commodities	7.23	2.0%	Total Tonnage: Top 5 Commodities	3.68	1.0%
Total Tonnage: U.S. Exports to Kaohsiung	11.35	3.2%	Total Tonnage: U.S. Imports to Kaohsiung	7.92	2.1%
Antwerp, Belgium					
Coal and Coke	2.22	4.4%	Petroleum Refineries	2.40	2.4%
Organic Chemicals	1.03	6.5%	Iron and Steel	1.98	5.5%
Synthetic Resins	0.64	9.1%	Crude Petroleum	0.60	0.1%
Inorganic Chemicals	0.34	2.4%	Organic Chemicals	0.39	2.9%
Grain	0.21	0.3%	Beverages	0.33	8.7%
Total Tonnage: Top 5 Commodities	4.43	1.3%	Total Tonnage: Top 5 Commodities	5.70	1.5%
Total Tonnage: U.S. Exports to Antwerp	7.16	2.0%	Total Tonnage: U.S. Imports to Antwerp	8.03	2.2%
Kobe, Japan					
Grain	1.66	2.1%	Parts of Motor Vehicles	0.20	5.8%
Animal Feed	0.39	16.5%	Iron and Steel	0.13	0.4%
Organic Chemicals	0.35	2.2%	Machinery and Equipment, nec.	0.09	3.6%
Oil Seeds	0.29	1.0%	Organic Chemicals	0.08	0.6%
Meat/Dairy/Fish Requiring Refrigeration	0.26	5.5%	Special Industrial Machinery	0.08	4.7%
Total Tonnage: Top 5 Commodities	2.95	0.8%	Total Tonnage: Top 5 Commodities	0.58	0.2%
Total Tonnage: U.S. Exports to Kobe	4.76	1.3%	Total Tonnage: U.S. Imports to Kobe	1.55	0.4%

Table II.28
Top Five U.S. Trade Commodities at Major Foreign Ports, 2000 (billions of \$)

U.S. Exports	Value	% of U.S. Exports	U.S. Imports	Value	% of U.S. Imports
Hong Kong					
Metal Products	4.96	27.7%	Drugs and Medicines	21.05	81.5%
Synthetic Resins	1.69	11.9%	Other Manufacturing, nec.	12.88	40.7%
Meat/Dairy/Fish Requiring Refrigeration	0.71	8.0%	Wearing Apparel	10.81	19.1%
Leather and Products	0.71	21.5%	Footwear	6.77	45.5%
Machinery and Equipment, nec.	0.53	4.2%	Office and Computing Machinery	5.53	20.0%
Total Value: Top 5 Commodities	8.61	2.8%	Total Value: Top 5 Commodities	57.05	7.6%
Total Value: U.S. Exports to Hong Kong	16.51	5.4%	Total Value: U.S. Imports to Hong Kong	91.78	12.26%
Tokyo, Japan					
Grain	1.75	14.3%	Parts of Motor Vehicles	3.91	15.9%
Meat/Dairy/Fish Requiring Refrigeration	1.44	16.2%	Electrical Apparatus, nec.	2.06	8.6%
Tobacco	0.95	18.6%	Office and Computing Machinery	2.05	7.4%
Inorganic Chemicals	0.87	5.5%	Other Communications Equipment	1.32	7.2%
Oil Seeds	0.82	9.2%	Photographic and Optical Goods	1.26	24.2%
Total Value: Top 5 Commodities	5.83	1.9%	Total Value: Top 5 Commodities	10.60	1.4%
Total Value: U.S. Exports to Tokyo	11.16	3.6%	Total Value: U.S. Imports to Tokyo	22.03	2.94%
Antwerp, Belgium					
Synthetic Resins	2.33	16.5%	Iron and Steel	2.36	7.8%
Organic Chemicals	1.68	10.0%	Special Industrial Machinery	1.75	6.9%
Inorganic Chemicals	1.22	7.7%	Organic Chemicals	1.21	10.0%
Machinery and Equipment, nec.	0.86	6.8%	Machinery and Equipment, nec.	1.09	5.7%
Professional Equipment	0.71	11.2%	Metal Products	0.88	2.0%
Total Value: Top 5 Commodities	6.80	2.2%	Total Value: Top 5 Commodities	7.29	1.0%
Total Value: U.S. Exports to Antwerp	17.63	5.8%	Total Value: U.S. Imports to Antwerp	16.72	2.23%
Busan, South Korea					
Metal Products	1.97	11.0%	Wearing Apparel	3.98	7.0%
Leather and Products	0.89	27.0%	Office and Computing Machinery	2.74	9.9%
Meat/Dairy/Fish Requiring Refrigeration	0.88	9.9%	Textiles	2.44	12.3%
Machinery and Equipment, nec.	0.63	5.0%	Metal Products	2.19	4.9%
Synthetic Resins	0.58	4.1%	Other Manufacturing, nec.	1.68	5.3%
Total Value: Top 5 Commodities	4.95	1.6%	Total Value: Top 5 Commodities	13.03	1.7%
Total Value: U.S. Exports to Busan	11.29	0.9%	Total Value: U.S. Imports to Busan	29.89	3.99%
Bremerhaven, Germany					
Motor Vehicles	1.69	18.2%	Motor Vehicles	7.46	12.3%
Parts of Motor Vehicles	0.90	10.9%	Special Industrial Machinery	3.03	11.9%
Machinery and Equipment, nec.	0.55	4.4%	Parts of Motor Vehicles	1.72	7.0%
Special Industrial Machinery	0.54	5.5%	Machinery and Equipment, nec.	1.66	8.7%
Textiles	0.39	3.6%	Metal Products	1.02	2.3%
Total Value: Top 5 Commodities	4.07	1.3%	Total Value: Top 5 Commodities	14.89	2.0%
Total Value: U.S. Exports to Bremerhaven	9.97	1.0%	Total Value: U.S. Imports to Bremerhaven	27.39	3.66%

Table II.29 Top 10 Foreign Ports by U.S. Coastal Range, 2000 (millions of metric tons)						
Rank	Foreign Port Name	Country	World Region	Metric Tons (millions)	% of Regional Tonnage	Cumulative Percent
Atlantic Coast						
1	St Eustatius	Caribbean Basin	North America	10.54	3.1%	3.1%
2	Amuay	Venezuela	South America	8.38	2.5%	5.6%
3	Puerto La Cruz	Venezuela	South America	7.77	2.3%	7.9%
4	Sullom Voe	United Kingdom	Europe	7.71	2.3%	10.1%
5	Antwerp	Belgium	Europe	7.61	2.2%	12.4%
6	Pnt Tupper	Canada	North America	7.40	2.2%	14.6%
7	Rotterdam	Netherlands	Europe	7.03	2.1%	16.6%
8	Qua Iboe	Western Africa	Africa	6.47	1.9%	18.6%
9	Mongstad	Norway	Europe	6.25	1.8%	20.4%
10	Escravos	Nigeria	Africa	6.08	1.8%	22.2%
Market Share of Top 10 Foreign Ports (Atlantic Coast Cargo)				75.23	22.2%	
Market Share of Top 175 Foreign Ports (Atlantic Coast Cargo)				278.61	82.2%	
Total Atlantic Coast Tonnage				338.91	100.0%	
Gulf Coast						
1	Puerto La Cruz	Venezuela	South America	27.07	4.6%	4.6%
2	Cayos Arcos	Mexico	North America	23.39	4.0%	8.6%
3	Pajaritos	Mexico	North America	20.41	3.5%	12.0%
4	Dos Bocas	Mexico	North America	16.48	2.8%	14.8%
5	Tokyo	Japan	Asia	13.15	2.2%	17.0%
6	Covenas	Colombia	South America	12.71	2.2%	19.2%
7	Coatzacoalcos	Mexico	North America	8.35	1.4%	20.6%
8	La Salina	Venezuela	South America	8.21	1.4%	22.0%
9	Carmen	Mexico	North America	8.07	1.4%	23.4%
10	Rotterdam	Netherlands	Europe	7.95	1.3%	24.7%
Market Share of Top 10 Foreign Ports (Gulf Coast Cargo)				145.80	24.7%	
Market Share of Top 175 Foreign Ports (Gulf Coast Cargo)				507.00	85.9%	
Total Gulf Coast Tonnage				590.10	100.0%	
Pacific Coast						
1	Hong Kong	China	Asia	13.79	6.7%	6.7%
2	Kaohsiung	Japan	Asia	12.53	6.1%	12.8%
3	Tokyo	Japan	Asia	8.83	4.3%	17.1%
4	Busan	Korea	Asia	8.17	4.0%	21.0%
5	Singapore	Singapore	Asia	8.04	3.9%	24.9%
6	Mina Al Bakr	Iraq	Middle East	6.47	3.1%	28.1%
7	Esmaraldas	Ecuador	South America	4.58	2.2%	30.3%
8	Yokohama	Japan	Asia	4.55	2.2%	32.5%
9	Shanghai	China	Asia	4.18	2.0%	34.5%
10	Kobe	Japan	Asia	3.76	1.8%	36.4%
Market Share of Top 10 Foreign Ports (Pacific Cargo)				74.90	36.4%	
Market Share of Top 175 Foreign Ports (Pacific Cargo)				184.72	89.7%	
Total Pacific Tonnage				205.92	100.0%	
Great Lakes						
1	Nanticoke	Canada	North America	9.66	19.1%	19.1%
2	Sault St Mari	Canada	North America	4.89	9.7%	28.7%
3	Hamilton	Canada	North America	3.44	6.8%	35.5%
4	Meldrum Bay	Canada	North America	2.71	5.3%	40.9%
5	Point Noire	Canada	North America	2.32	4.6%	45.5%
6	Windsor	Canada	North America	1.75	3.4%	48.9%
7	Goderich	Canada	North America	1.53	3.0%	51.9%
8	Quebec	Canada	North America	1.49	2.9%	54.9%
9	Sept Isl	Canada	North America	1.32	2.6%	57.5%
10	Port Cartier	Canada	North America	1.28	2.5%	60.0%
Market Share of Top 10 Foreign Ports (Gulf Cargo)				30.38	60.0%	
Market Share of Top 175 Foreign Ports (Gulf Cargo)				50.56	99.9%	
Total Great Lakes Tonnage				50.62	100.0%	

Table II.30
Top 10 Foreign Ports by U.S. Coastal Range, 2000 (billions of \$)

Rank	Foreign Port Name	Country	World Region	\$ (billions)	% of Regional Value	Cumulative Percent
Atlantic Coast						
1	Bremerhaven	Germany	Europe	29.25	7.2%	7.2%
2	Antwerp	Belgium	Europe	22.97	5.7%	12.9%
3	Rotterdam	Netherlands	Europe	21.32	5.3%	18.1%
4	Durban	Egypt	Africa/MidEast	14.13	3.5%	21.6%
5	Hong Kong	Hong Kong	Asia	11.54	2.8%	24.4%
6	Puerto Cortes	Brazil	South America	9.18	2.3%	26.7%
7	Felixstowe	United Kingdom	Europe	9.03	2.2%	28.9%
8	Le Havre	France	Europe	7.55	1.9%	30.8%
9	Haina	Dominican Republic	North America	7.12	1.8%	32.5%
10	Santos	Brazil	South America	7.08	1.7%	34.3%
Market Share of Top 10 Foreign Ports (Atlantic Coast Cargo)				139.16	34.3%	
Market Share of Top 175 Foreign Ports (Atlantic Coast Cargo)				405.79	100.0%	
Total Atlantic Coast Tonnage				405.79	100.0%	
Gulf Coast						
1	Antwerp	Belgium	Europe	7.94	4.1%	4.1%
2	Rotterdam	Netherlands	Europe	7.80	4.0%	8.1%
3	Bremerhaven	Germany	Europe	3.81	2.0%	10.1%
4	Richards Bay	South Africa	Africa	3.70	1.9%	12.0%
5	Puerto La Cruz	Venezuela	South America	3.18	1.6%	13.7%
6	St Petersburg	Russia	Europe	2.92	1.5%	15.2%
7	Cayos Arcos	Mexico	North America	2.78	1.4%	16.6%
8	Pajaritos	Mexico	North America	2.72	1.4%	18.0%
9	Freeport	Bahamas	North America	2.71	1.4%	19.4%
10	Vera Cruz	Mexico	North America	2.45	1.3%	20.7%
Market Share of Top 10 Foreign Ports (Gulf Coast Cargo)				40.01	20.7%	
Market Share of Top 175 Foreign Ports (Gulf Coast Cargo)				193.36	100.0%	
Total Gulf Coast Tonnage				193.36	100.0%	
Pacific Coast						
1	Hong Kong	Hong Kong	Asia	96.68	21.7%	21.7%
2	Kaohsiung	Japan	Asia	40.35	9.1%	30.8%
3	Busan	Korea	Asia	35.64	8.0%	38.8%
4	Singapore	Singapore	Asia	32.23	7.2%	46.1%
5	Tokyo	Japan	Asia	27.71	6.2%	52.3%
6	Nagoya	Japan	Asia	17.72	4.0%	56.3%
7	Yantian	China	Asia	16.04	3.6%	59.9%
8	Kobe	Japan	Asia	15.97	3.6%	63.5%
9	Shanghai	China	Asia	14.62	3.3%	66.8%
10	Yokohama	Japan	Asia	13.93	3.1%	69.9%
Market Share of Top 10 Foreign Ports (Pacific Cargo)				310.90	69.9%	
Market Share of Top 175 Foreign Ports (Pacific Cargo)				444.61	100.0%	
Total Pacific Tonnage				444.61	100.0%	
Great Lakes						
1	Ijmuiden			2.05	18.6%	18.6%
2	Antwerp	Belgium	Europe	1.52	13.8%	32.3%
3	Richards Bay	Canada	North America	0.82	7.4%	39.8%
4	Quebec	Canada	North America	0.45	4.1%	43.9%
5	Sorel			0.44	4.0%	47.8%
6	Nanticoke	Canada	North America	0.42	3.8%	51.6%
7	Hamilton	Canada	North America	0.41	3.7%	55.3%
8	Sarnia			0.37	3.4%	58.7%
9	Sault St Mari	Canada	North America	0.32	2.9%	61.5%
10	Yokohama	Japan	Asia	0.24	2.2%	63.7%
Market Share of Top 10 Foreign Ports (Gulf Cargo)				7.05	63.7%	
Market Share of Top 175 Foreign Ports (Gulf Cargo)				11.07	100.0%	
Total Great Lakes Tonnage				11.07	100.0%	

CONCLUSIONS

Among the tremendous variety of commodities traded through U.S. ports there are differences in the equipment used to handle these commodities and in commodity sourcing. There is a significant difference in the rankings of commodities traded depending on whether the rankings are calculated from tonnage or value of trade. In tonnage terms, bulk commodities such as crude oil, petroleum products, grain, oil seeds and coal are the largest commodity categories traded through U.S. ports. In value terms, the motor vehicle, metal products and apparel commodity categories are the largest, ahead of the value of crude oil and petroleum products.

The long-term trade outlook for the major bulk commodities is for slow but steady tonnage growth. Rates of tonnage growth for crude oil, petroleum products, coal, grain, and oil seeds will all be slower than the average growth in trade as well as slower than overall growth in the U.S. economy. More rapid growth in tonnage growth is forecast for some relatively higher unit value commodity categories such as imports of wearing apparel, furniture and fixtures and refrigerated produce.

In tonnage terms, as a region, North America (made up of Canada and Mexico) is the largest trade partner of the United States. Asia is the second largest, but fastest growing overall. In the forecast period, Asia will continue to increase in importance as a maritime trade partner taking over as the leading trade partner region by 2020. North America and Europe will lose share of total US seaborne trade. In value terms the importance of Asia to the U.S. as a trade partner region is even more pronounced, with Europe second in importance, and not growing as fast. This situation reflects the commodity composition of the U.S. trade with these regions, where the faster growing manufactured goods trade, especially imports, are increasingly coming from Asia.

The U.S. Gulf Coast port range has the greatest share of tonnage traded due to the large volume of crude oil, petroleum products and agricultural goods that move through its ports. Over the forecast period, in tonnage terms, the Pacific Coast is expected to have tonnage growth at more than twice the rate that will be handled through Gulf Coast Ports. The Atlantic Coast will see tonnage growth at rates between that of the Pacific and Gulf Coast ports, and therefore roughly maintains its share of national traded seaborne commodities.

The types of commodities carried by each of the vessel types in U.S. trade reflect the commodity groups' usual physical characteristics and shipment sizes. These operating practices will continue in the future, however there will be further growth in the containerized share of many commodity categories traditionally carried on bulk or general cargo vessels. This trend will dampen the future growth in tonnage on the bulk and general cargo vessels.

International commodity flows at U.S. ports are concentrated at a few dozen ports. The top twenty ports handle almost 70% of total U.S. waterborne trade tonnage and 83% of the value of U.S. waterborne trade. Over the long term, due to the growth in U.S. – Asian trade, the U.S. Pacific Coast ports will see the most rapid growth in tonnage while the U.S. Gulf Coast ports will experience slower growth in tonnage due to the dominance of slower growing bulk cargoes handled at their ports.

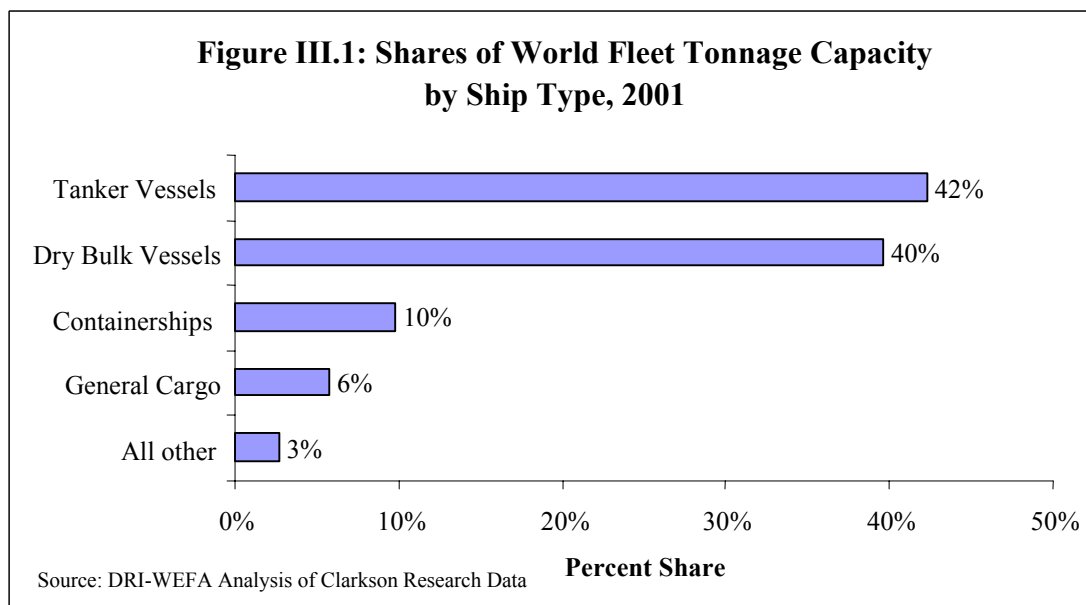
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3. PROFILE OF THE WORLD MERCHANT FLEET

3.1 VESSEL MARKET OVERVIEW

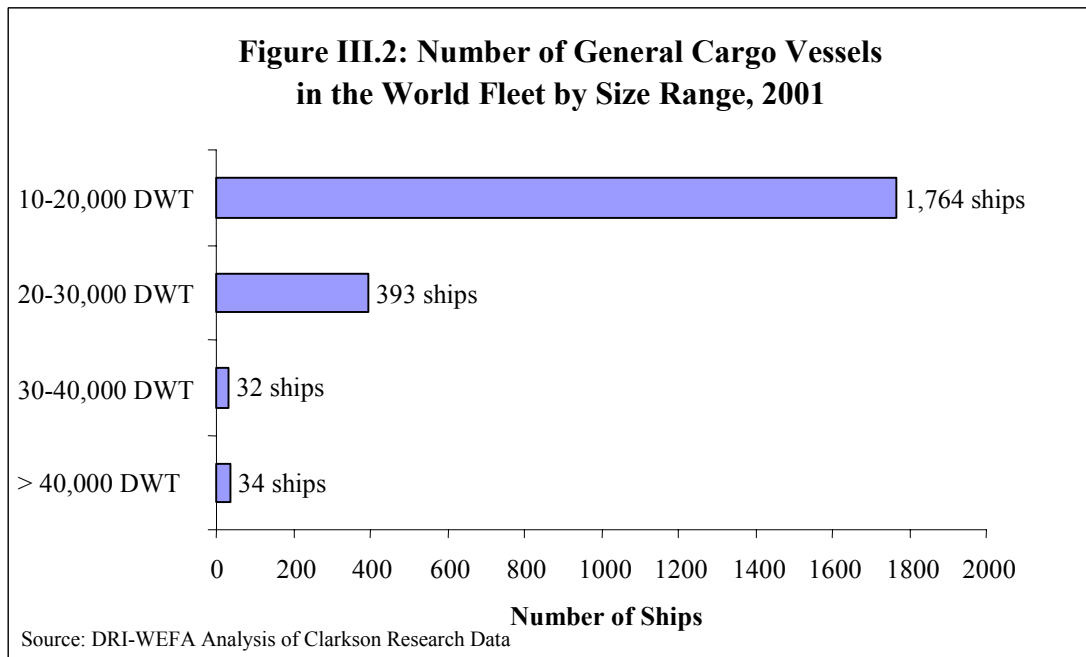
Many carriers will be forced to replace a significant portion of their deep-sea fleet over the next few years. Vessels built during the construction boom in the years 1974-1977 are reaching 25-plus years of service, the average retirement age. For tankers, environmental regulations imposed by the U.S. and the International Maritime Organization (IMO) will require carriers to scrap most single-hull tankers to reduce the risk of oil spills. The Oil Pollution Act of 1990 requires phasing out of single-hull tankers servicing U.S. ports by 2005. IMO regulations require old tankers servicing foreign ports to be retrofitted with double hulls. New tankers are also being built to accommodate expansion of refinery capacity in the Middle East and Southeast.

Altogether, the tonnage capacity of the world merchant fleet has not changed drastically since the mid-1990s. Tankers, Dry Bulks, and Containers continue to comprise the largest portion of the world merchant fleet; together these ship types account for over 92% of total capacity. Though Tanker capacity hovers around 40%, it still comprises the largest portion of the world fleet. Over time, this share is expected to decline as scrapping diminishes the single-hull portion of the fleet. Due to the slow rate of double-hull construction, the tanker fleet should not recover until well into 2004. Bulk ships have also retained their market share over time, comprising 40% of world fleet capacity. Not surprisingly, containership capacity has seen the most positive growth over the past five years, increasing to 10% of the world merchant fleet. In the future, both the bulk and containership capacity will flourish, spurred by industry demand.



3.2 GENERAL CARGO FLEET

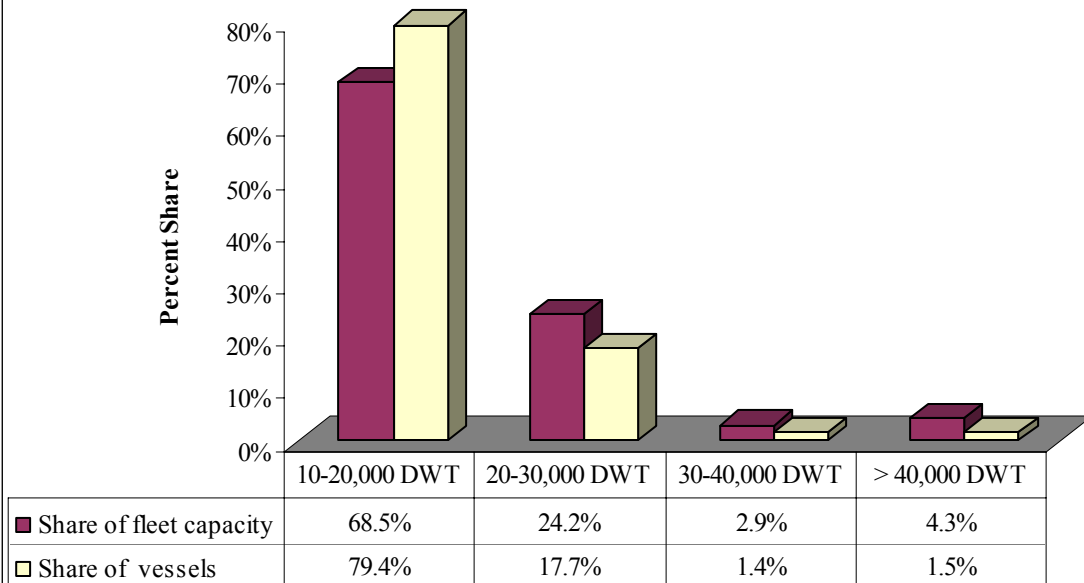
Though the general cargo ship is in permanent decline, assailed on all sides by the encroachment of containerships, ro-ro ships and bulk carriers into their traditional territory, there remains a niche for this ship type. The flexibility of multipurpose vessels continues to keep break-bulk ships in demand.



The size composition of the world general cargo fleet (Figure III.2) continues to be dominated by the smaller ships—over half of the total fleet consists of ships less than 10,000 deadweight metric tons (DWT). Over 90% of the ships in the world general cargo fleet have deadweight less than 20,000 metric tons. The smaller general cargo vessels also comprise the majority of the hauling capacity for this ship type; ships over 30,000 DWT account for only 7.2% of total capacity (Figure III.3).

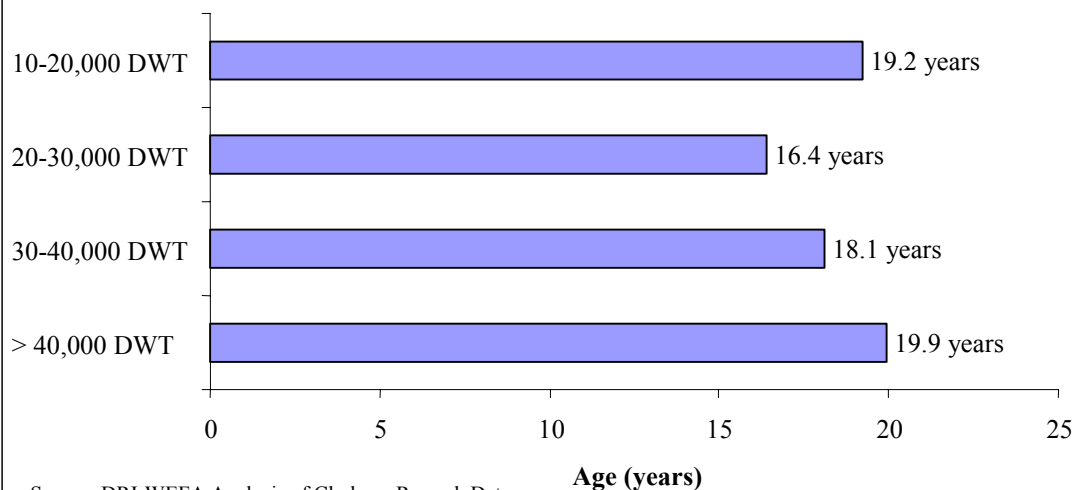
The largest general cargo vessels are also the oldest, (Figure III.4), with an average age of almost 20 years. The youngest portion of the fleet is vessels between 20,000 and 30,000 DWT, demonstrating that most investment in newer ships is geared into this category. Averaging 18.4 years, the relative old age of the general cargo fleet suggests that recent construction activity is focused elsewhere in the industry.

Figure III.3: Distribution of Tonnage Capacity and Number of Vessels in the World General Cargo Fleet by Size Range, 2001



Source: DRI-WEFA Analysis of Clarkson Research Data

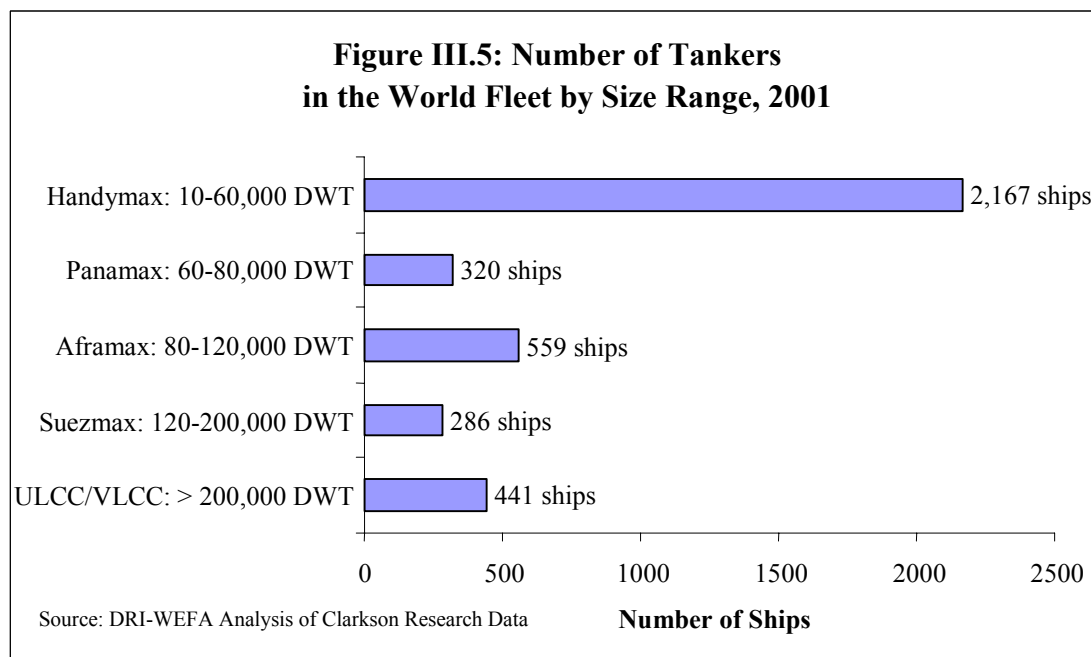
Figure III.4: Average Age of General Cargo Vessels in the World Fleet by Size Range, 2001



Source: DRI-WEFA Analysis of Clarkson Research Data

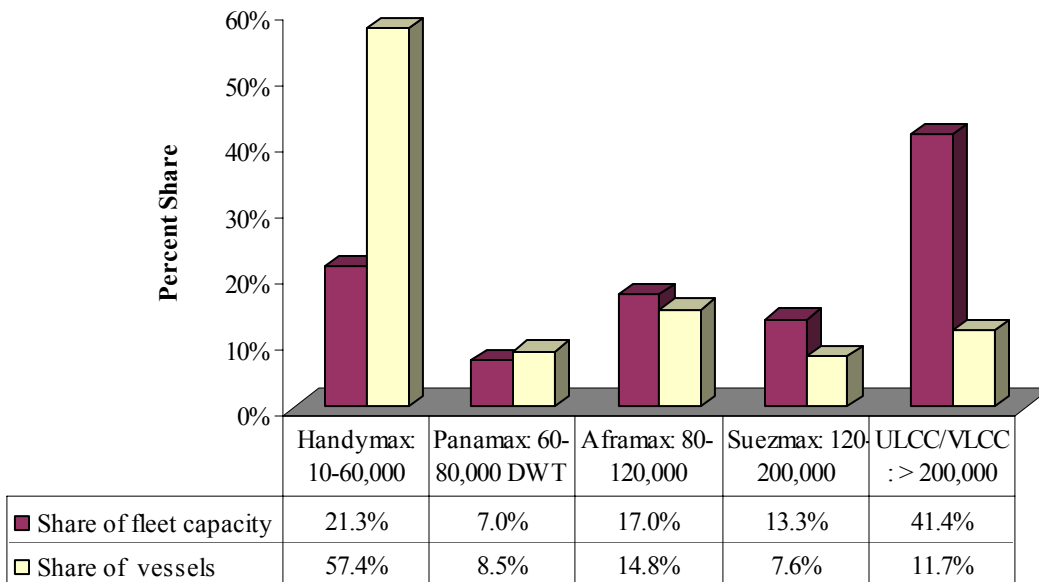
3.3 TANKER FLEET

The most important changes to the tanker fleet over the past two years were the result of both changes in policy and in demand. A key factor in the lower rate of growth in the tanker fleet will be a shift from long haul to shorter haul crude oil trades. Single-hull tankers are being scrapped, as changing environmental policy requires double-hull construction for tanker vessels. Both effects, however, will be somewhat offset by the rapid growth in demand for oil in the developing countries of the Far East. Figures III.5 and III.6 represent the composition of the world tanker fleet across the various classes of vessel sizes.



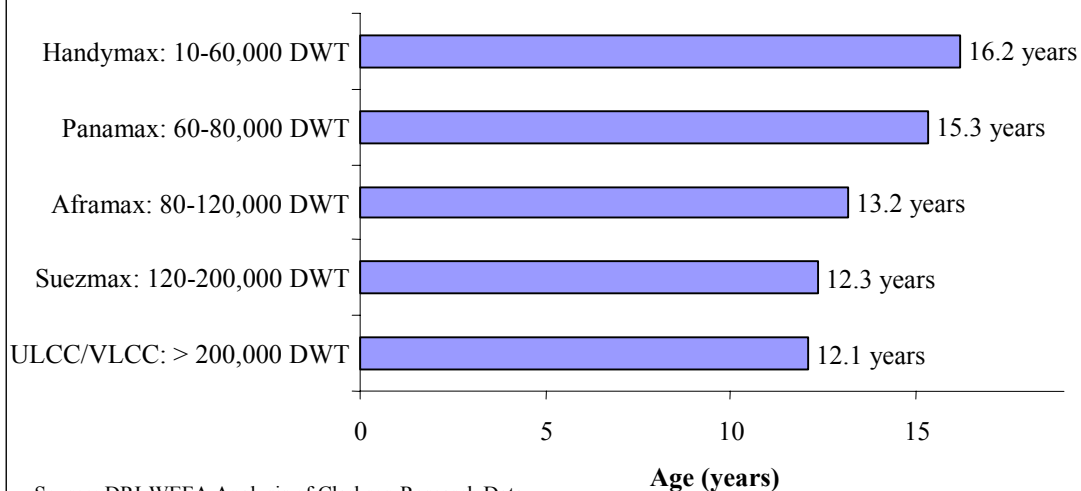
The Ultra Large Crude Carrier/Very Large Crude Carrier (ULCC/VLCC) class of tankers continues to be the largest contributor to tanker fleet capacity. These huge vessels (defined as having a deadweight greater than 200,000 metric tons), while comprising only 11.7% of the fleet, make up over 41% of total fleet capacity. In terms of sheer numbers, vessels between 10,000 and 60,000 DWT still comprise the largest portion of the world tanker fleet. Although the 2,167 vessels in this range comprise 57.4% of total tankers in the world fleet—Handymax vessels contribute 21.3% of the fleet’s carrying capacity. Since 1999, the number of Panamax vessels, the next largest vessel class in terms of tonnage, has decreased to 8.5%. As displayed in Figure III.7, however, in the same period of time, the average age of this class of tanker vessel has crept upwards, to 15.3 years. This suggests that while some Panamax ships are being scrapped, few new ships are being built to replenish the fleet.

Figure III.6: Distribution of Tonnage Capacity and Number of Vessels in the World Tanker Fleet by Size Range, 2001



Source: DRI-WEFA Analysis of

Figure III.7: Average Age of Tanker Vessels in the World Fleet by Size Range, 2001

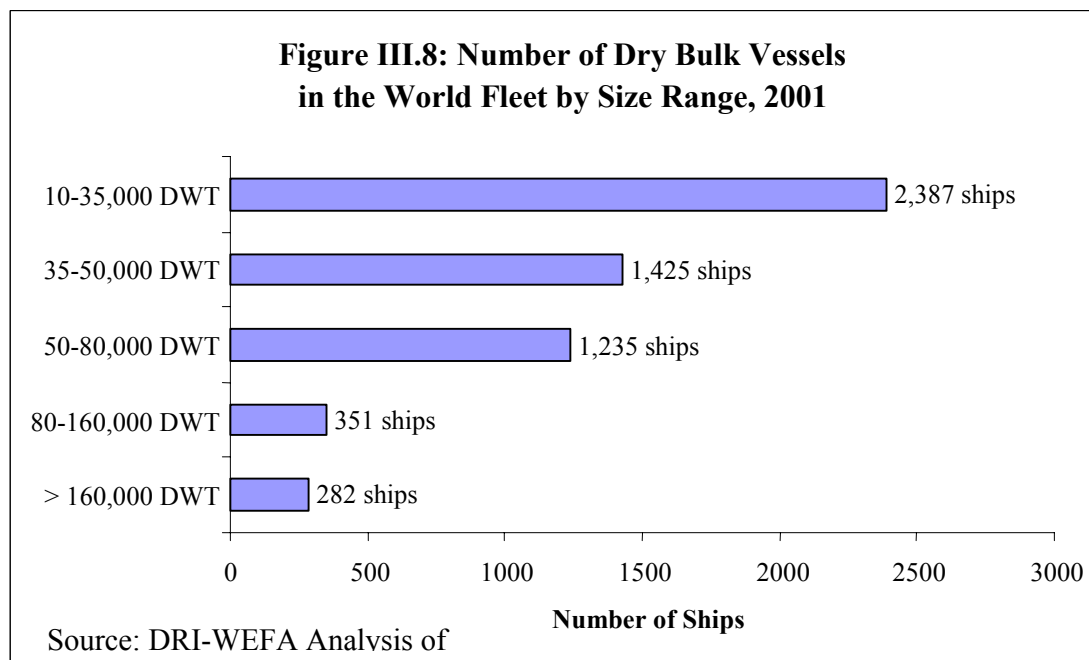


Source: DRI-WEFA Analysis of Clarkson Research Data

3.4 DRY BULK AND COMBINATION CARRIERS

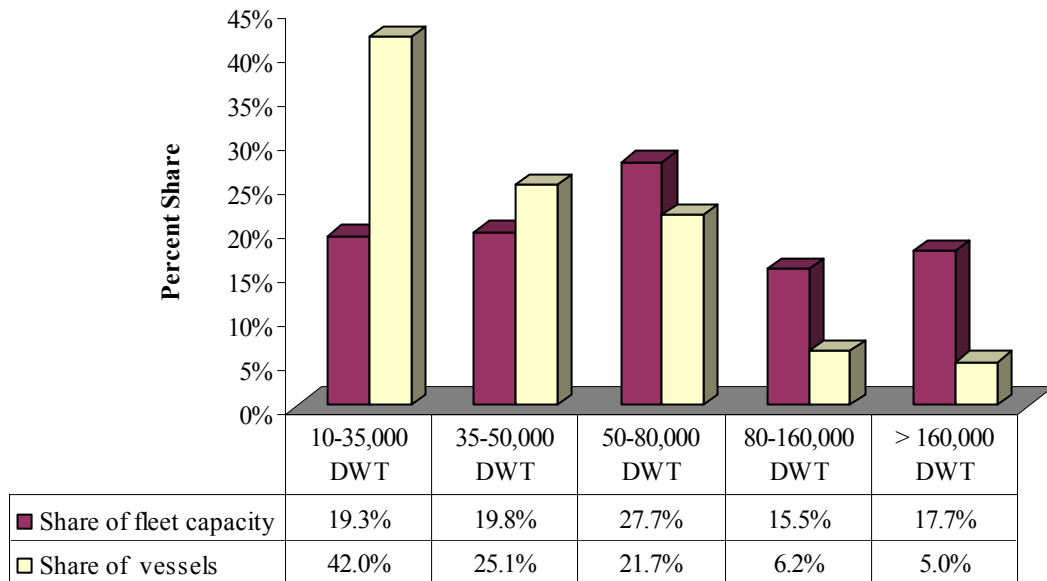
In the past two years, as a result of a weak freight market, the dry bulk fleet has decreased in size. This aspect of the shipping market is expected to recover; the dry bulk shipping fleet will revive as worldwide demand for oil seeds and other grains rise in the wake of globalization.

Figures III.8 and III.9 illustrate the size and capacity distribution across dry bulk vessel classes. Though certainly fewer in number, vessels between 10,000 and 35,000 DWT continue to make up the most substantial portion of the world's dry cargo fleet, 40.7%. In recent history, larger bulk carriers, those between 50,000 and 80,000 DWT, have experienced growth in fleet size as well as capacity share. Dry bulk carriers in excess of 160,000 deadweight tons have grown 20% since 1999, and, now, comprise 19% of fleet capacity (compared to 15% in previous years).



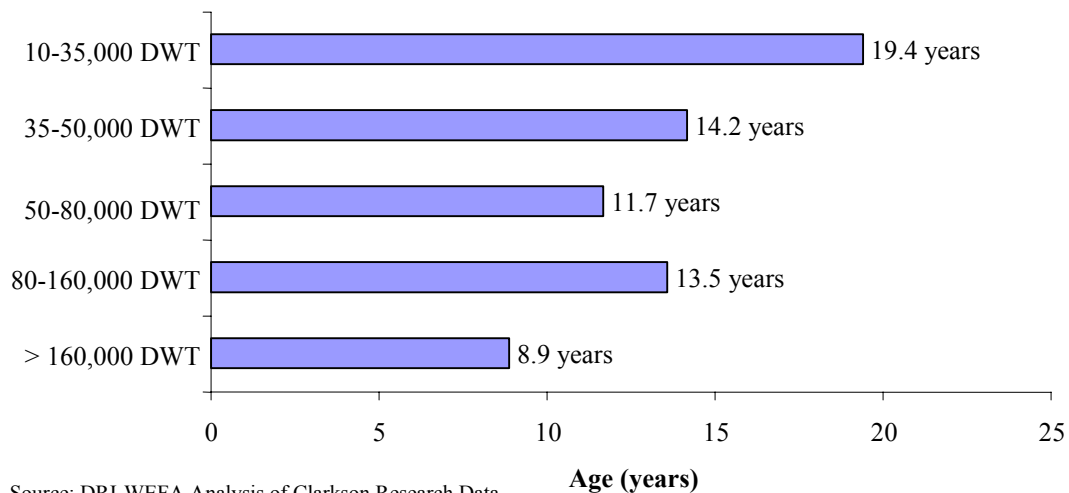
Overall, however, there has been relatively little change in the age and composition in the world dry bulk fleet. Figure III.10 shows the fleet increased average age and reflects the current slump in dry bulk vessel demand.

Figure III.9: Distribution of Tonnage Capacity and Number of Vessels in the World Dry Bulk Fleet by Size Range, 2001



Source: DRI-WEFA Analysis of Clarkson Research Data

Figure III.10: Average Age of Dry Bulk Vessels in the World Fleet by Size Range, 2001



Source: DRI-WEFA Analysis of Clarkson Research Data

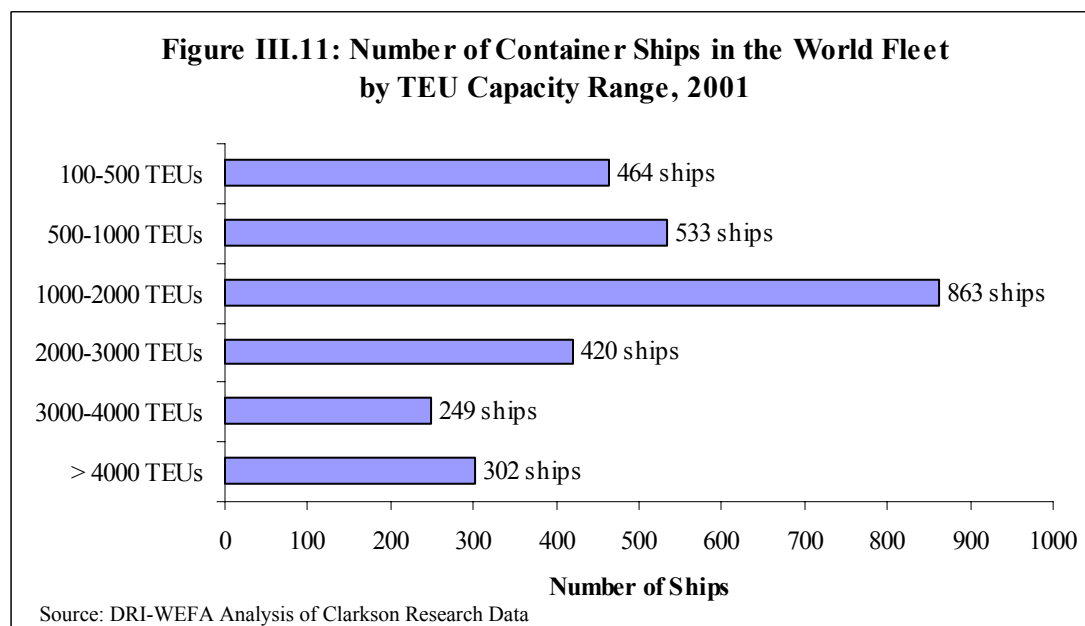
3.5 CONTAINERSHIPS

The combination of strength of trade flows and the need to consolidate to survive competitive pressures has resulted in the container shipping industry striving to achieve ever-increasing economies of scale. Containerships, port terminals, cranes, and companies are all getting larger. In the 1970s, the same happened with tankers, before the Suez Canal reopened. Similarly, dry bulk vessels grew rapidly in the 1980s.

Today, nearly two thirds of containerships on order are post Panamax (4,000 TEU and over), with a significant number with capacities in excess of 7,000 TEU. Designs are on drawing boards for the next generation of 10,000+ TEU vessels, including even monster Malacca-max 18,000 TEU vessels. The rationale is that for two trade routes (Europe-Asia and the transpacific), sufficient volume exists to provide economies of scale that make these vessels viable. The underlying assumption is that there will be no let-up in the growth of trade and that the number of port calls by individual vessels will need to be reduced. Considering the current state of the world's economies, neither one of these is a safe assumption.

According to Clarkson's Research, the cellular fleet over 4,000 TEU has 302 vessels with a total TEU container capacity equivalent to over 27% of the entire fleet. According to the Journal of Commerce, total container capacity is expected to reach 6 million TEU by the end of 2003. However, in the wake of a contracting container ship market, many companies are considering, or have already, canceling orders for 8,000+ TEU vessels.

Figure III.11 displays the number of vessels in the containership fleet in 2000. As illustrated,

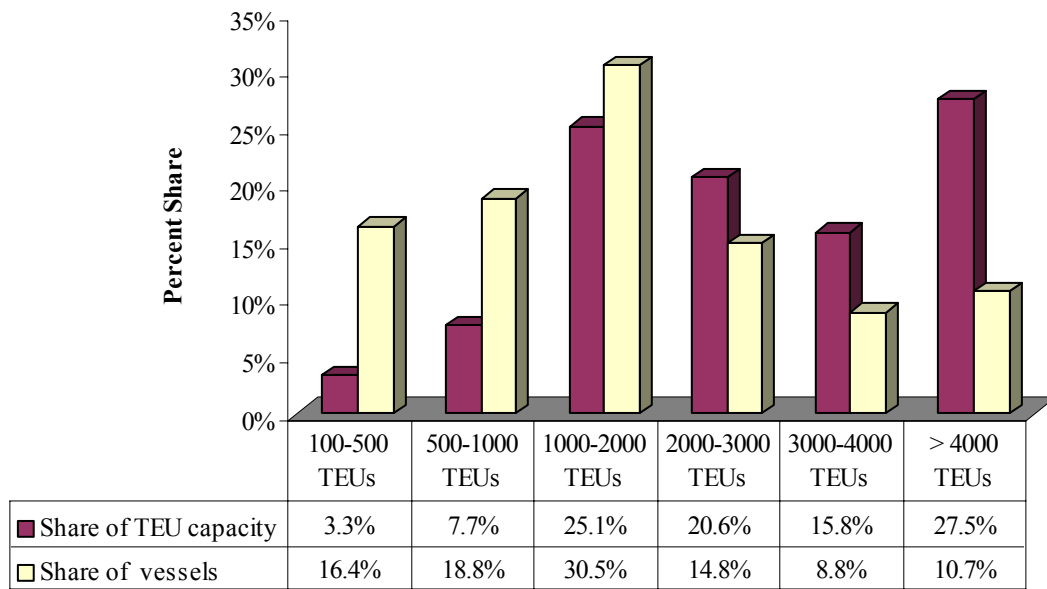


there has been a substantial growth in the containership fleet in recent years. The total numbers of ships has increased to 2,850 in 2000. Over 300 vessels are in excess of 4,000 TEU.

Currently, containerships in excess of 5,000 TEU capacity account for only 4.8% of the fleet, but 13.8% of capacity. According to Figure III.12, the top 3 contributors to capacity are the larger sized vessels; vessels between 2,000-3,000 TEU, 3,000-4,000 TEU, and 4,000+ TEU, account for 20.6%, 15.8%, and 27.5% of total fleet capacity. Figure III.13 displays the average

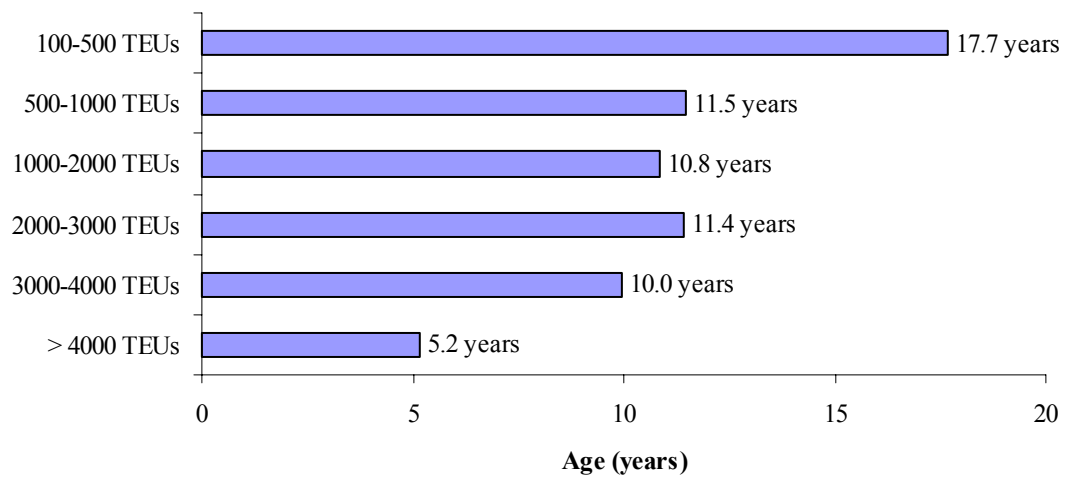
age of the containership fleet by tonnage capacity. Vessels between 100 and 500 TEU are the smallest and, averaging 17.7 years of age, are by far the oldest members of the fleet. By this illustration, the majority of investment in containership construction is targeted towards the largest vessels. Ship between 3000-4000 TEU average 10 years of age; while vessels in excess of 4,000 average 5.2, less than half of the average age for the fleet.

Figure III.12: Distribution of Tonnage Capacity and Number of Vessels in the World Container Fleet by Size Range, 2001



Source: DRI-WEFA Analysis of Clarkson Research Data

Figure III.13: Average Age of Container Ships in the World Fleet by TEU Capacity Range, 2001



Source: DRI-WEFA Analysis of Clarkson Research Data

3.6 DRAFT CHARACTERISTICS OF THE WORLD FLEET

Recently, the most notable changes to have occurred to draft design characteristics of the world merchant fleet are a direct result of the increasing tendency of the industry towards economies of scale. Increasing populations of large vessels, such as Post-Panamax container vessels and ULCC/VLCC tanker ships, have pushed world ports to dredge their harbors to increasingly greater depths. Currently, the biggest vessels in the world have design drafts in excess of 90ft.

Table III.1 Design Draft Characteristics of the World Merchant Fleet, 2001						
Containership Fleet						
Vessel Capacity (DWT)	Number of Vessels	% of Fleet Capacity	Average (ft.)	Max (ft.)	Min (ft.)	Deviation (ft.)
500-1000	533	7.5%	25.8	36.2	17.3	3.3
1-2,000	863	24.2%	32.1	39.5	21.3	3.2
2-3,000	420	20.8%	37.8	43.1	32.8	2.2
3-4,000	249	16.9%	39.8	45.9	33.1	2.4
4-5,000	165	14.6%	42.9	46.0	35.4	1.8
>5,000	137	16.1%	45.2	47.6	39.4	1.9
Dry Bulk Fleet						
Vessel Capacity (DWT)	Number of Vessels	% of Fleet Capacity	Average (ft.)	Max (ft.)	Min (ft.)	Deviation (ft.)
10-35,000	2387	19.3%	31.9	44.6	21.1	2.9
35-50,000	1425	19.8%	36.8	42.9	25.4	1.9
50-80,000	1235	27.7%	42.9	49.9	19.7	2.7
80-160,000	351	15.5%	53.0	59.1	34.1	5.1
>160,000	282	17.7%	58.6	75.6	38.1	4.2
Tanker Fleet						
Vessel Capacity (DWT)	Number of Vessels	% of Fleet Capacity	Average (ft.)	Max (ft.)	Min (ft.)	Deviation (ft.)
Handymax	2167	21.3%	34.1	47.3	17.6	5.0
Panamax	320	7.0%	41.0	49.6	35.4	3.1
Aframax	559	17.0%	45.2	54.8	34.1	3.3
Suezmax	286	13.3%	54.0	61.9	43.0	2.6
ULCC/VLCC	441	41.4%	69.3	93.8	59.6	4.7
General Cargo Fleet						
Vessel Capacity (DWT)	Number of Vessels	% of Fleet Capacity	Average (ft.)	Max (ft.)	Min (ft.)	Deviation (ft.)
10-20,000	1764	68.5%	29.7	51.5	16.2	2.7
20-30,000	393	24.2%	33.2	90.0	20.8	3.9
30-40,000	32	2.9%	36.1	42.0	28.9	2.8
>40,000	34	4.3%	37.3	40.7	23.0	3.6
Source: DRI-WEFA Analysis of Clarkson Research Data						

Table III.1 summarizes draft characteristics of the world merchant fleet of 2001. The largest tankers and bulk vessels have drafts well over 70 ft. For instance, Frontline Ltd.'s Sea Giant, a ULCC class tanker, has a design draft of approx. 93.8 ft. The largest container ships currently have drafts around 48 ft. As the industry pushes towards larger and bigger vessels, and as drafts creep further upward, the ports will be pressured to deepen and widen channels.

The size range of containerships that constitutes the largest share of fleet capacity is in the over 4,000 TEU range, which comprise 30.7% of total container fleet capacity. The most significant range for the dry bulk fleet, in terms of capacity, is the 50,000-80,000 DWT range, which has over a quarter of overall capacity. With tankers, the ULCC/VLCC class (ships over 200,000 DWT), make up 42.5% of tanker capacity. In contrast, general cargo ships have the most capacity, 68.5%, in the smallest range, 10,000-20,000 DWT.

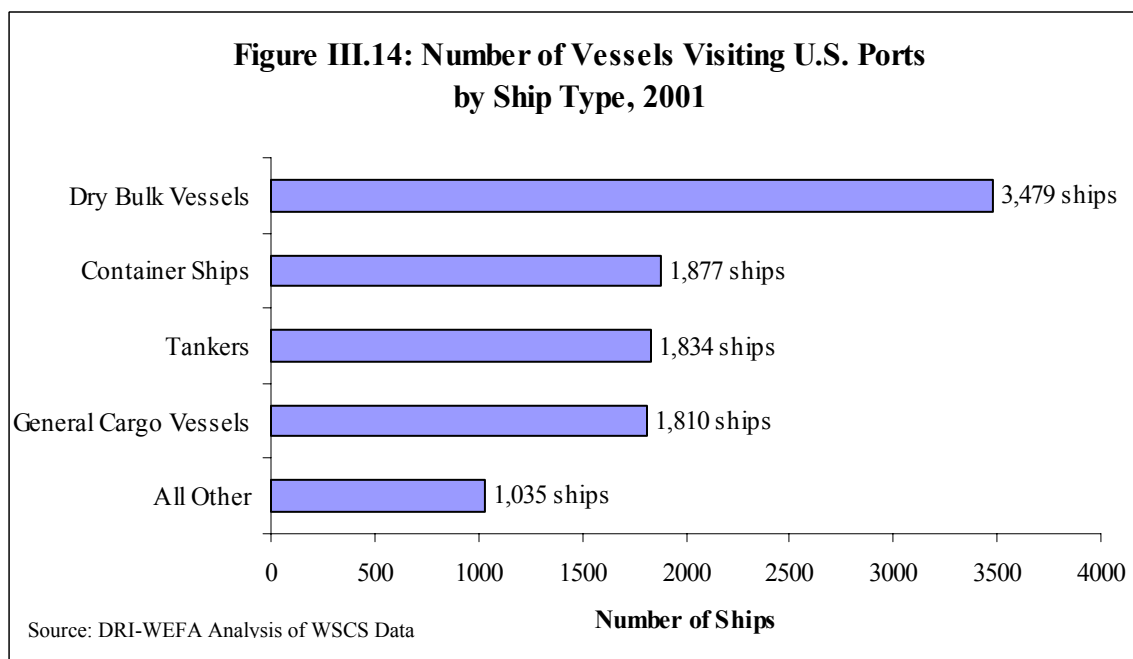
The most numerically significant size range of containerships is the 1,000-2,000 TEU range. With dry bulk vessels, the smallest group, the 10,000-35,000 range, contains the most vessels. The Handymax class of tankers (10,000-60,000 DWT) is the most numerous, accounting for over one half of all tanker ships. And the smallest size range of general cargo vessels, 10,000-20,000 DWT, has by far the most ships; 80% of all general cargo vessels are within that size range.

Table III.2 summarizes the characteristics of the world fleet calling on U.S. ports.

Table III.2 Draft Characteristics of World Fleet Calling on U.S. Ports in 2001				
Vessel Type	Average Draft	Max (ft.)	Min (ft.)	Standard Deviation
Container	36.5	47.6	15.4	5.9
Dry Bulk	37.3	60.7	22.7	5.8
General cargo	27.8	52.5	11.9	5.4
Miscellaneous	25.8	37.5	10.4	5.2
Tanker	39.1	74.9	17.5	8.8
Source: DRI-WEFA Analysis of WCSC Data				

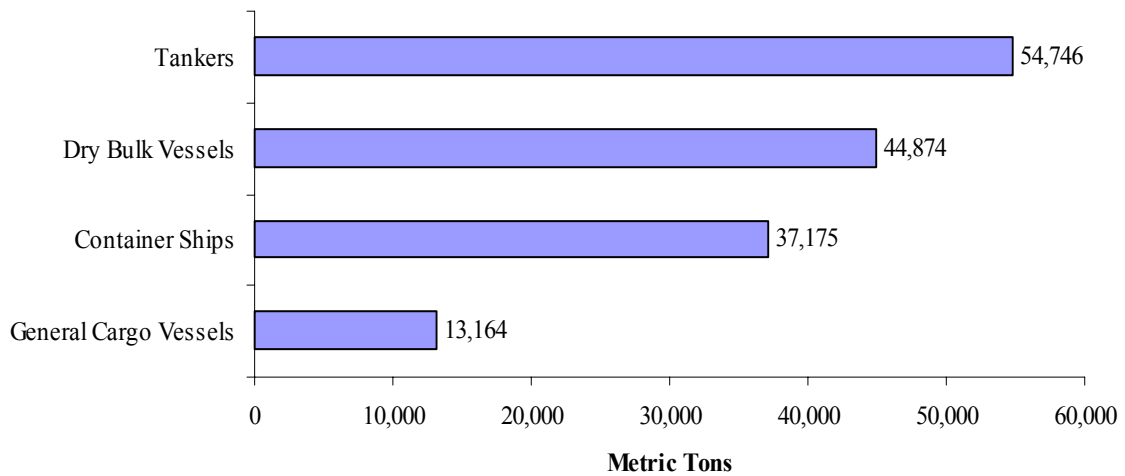
3.7 WORLD FLEET CALLING ON U.S. PORTS

Of the 10,035 vessels that call on United States ports, dry bulk vessels are the largest category (See Figure III-14). Containerships are second, with nearly 2,000 vessels calling on the U.S. in 2000. The largest ships in the world fleet are oil tankers, and thus tankers have the largest average deadweight of vessels visiting U.S. ports. Dry bulk vessels are the next largest in average deadweight, and containerships are third. General cargo vessels tend to be significantly smaller than the three aforementioned ship types, since these vessels engage in trade that is typically made up of niche markets that do not warrant the economies of scale of larger vessels.



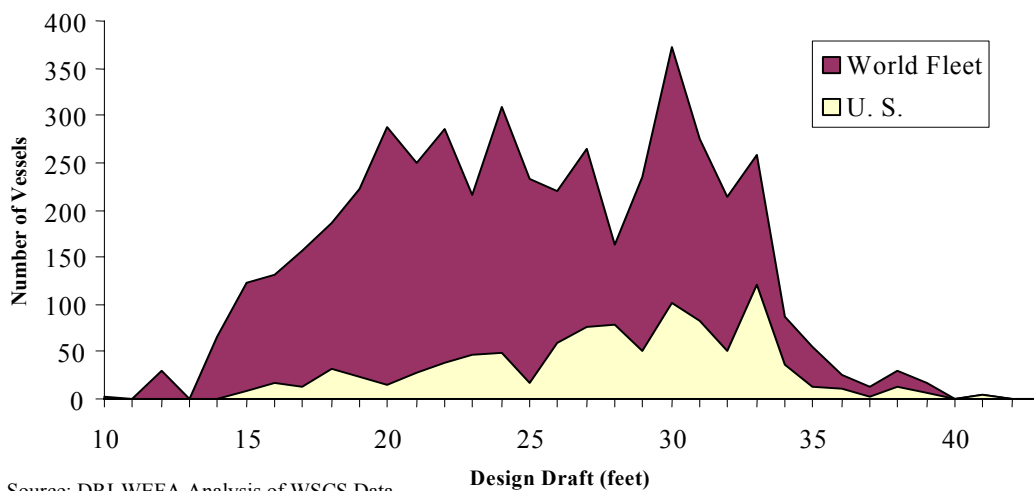
As exhibited in Figures III-15 through III-19, the trends between the existing world fleet and the portion of that fleet calling on U.S. ports are closely correlated. The design drafts of general cargo vessels visiting U.S. ports are widely dispersed, and do not exhibit clustering around any one draft size. Bulk vessels tend to sail deeper, and most of those that visit U.S. ports tend to have design drafts within the 30 to 40 foot range. Tankers, including those that call on the U.S., tend to have deeper drafts, and there are a significant number of tanker vessels visiting the U.S. with drafts around 55 feet. The largest tanker vessels in the world have drafts of 93 feet, but the largest tanker vessels that frequent the United States have drafts of 74 feet. Most containerships that visit the U.S. have drafts in the range of 32 to 42 feet. In contrast to the other three ship types whose drafts are compared here, there are very few containerships having design drafts of less than 32 feet.

**Figure III.15: Average Size of Vessels Visiting U.S. Ports
by Ship Type, 2001 (metric tons)**



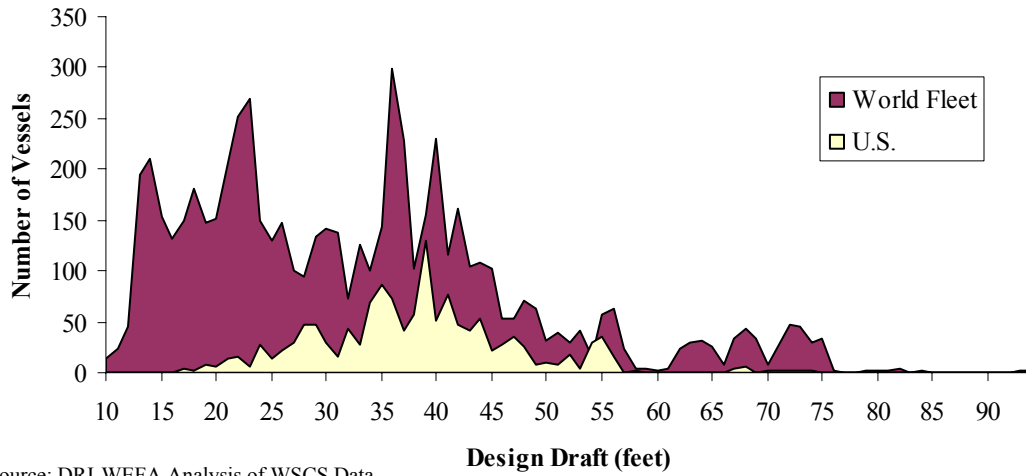
Source: DRI-WEFA Analysis of WSCS Data

**Figure III.16: General Cargo Vessel Design Drafts, World Fleet
and Vessels Calling on the U.S., 2001 (feet)**



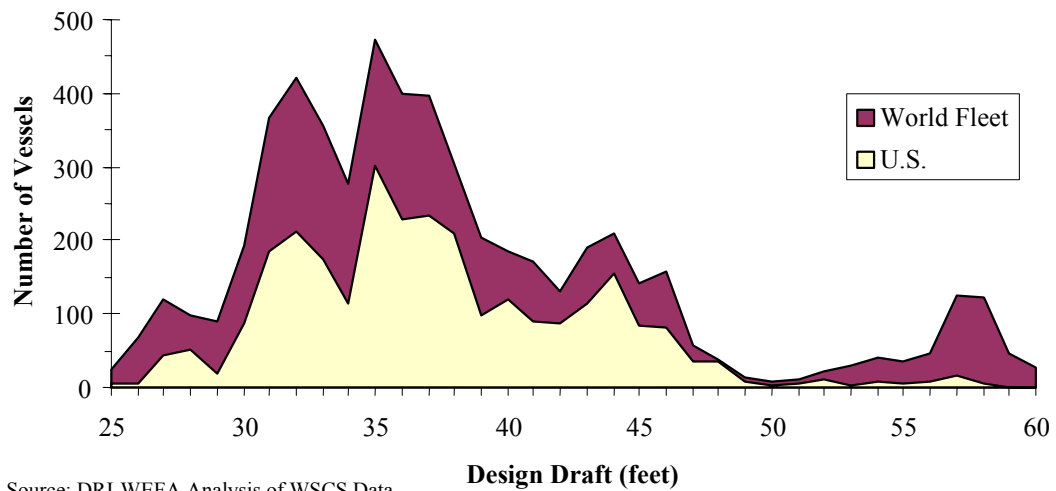
Source: DRI-WEFA Analysis of WSCS Data

Figure III.17: Tanker Design Drafts, World Fleet and Vessels Calling on the U.S., 2001 (feet)

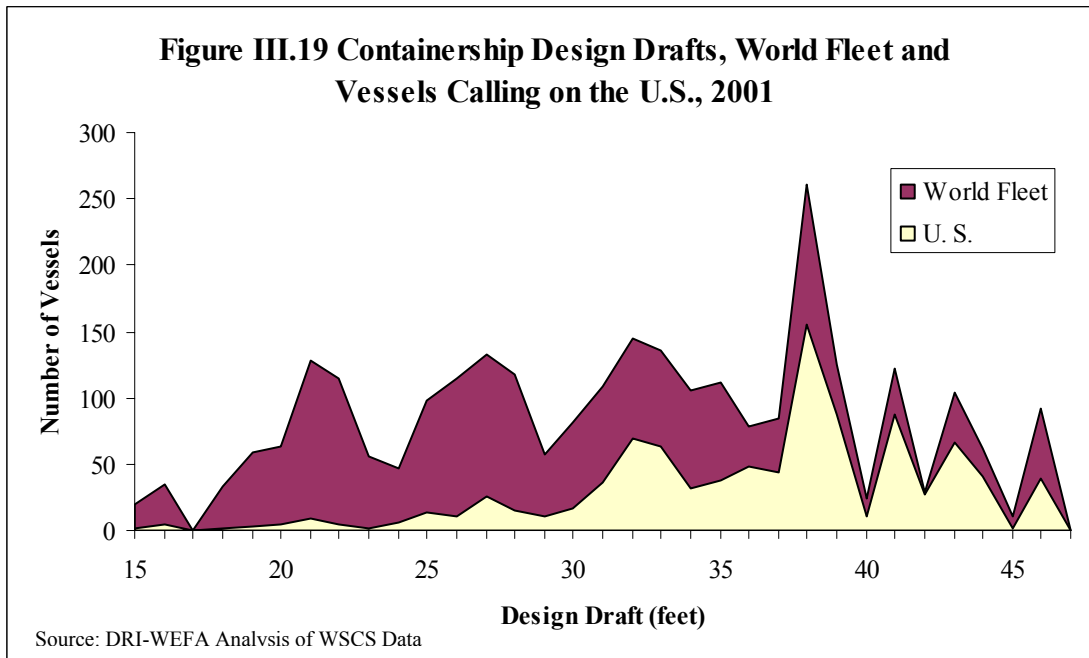


Source: DRI-WEFA Analysis of WSCS Data

Figure III.18: Dry Bulk Vessel Design Drafts, World Fleet and Vessels Visiting U.S., 2001 (feet)

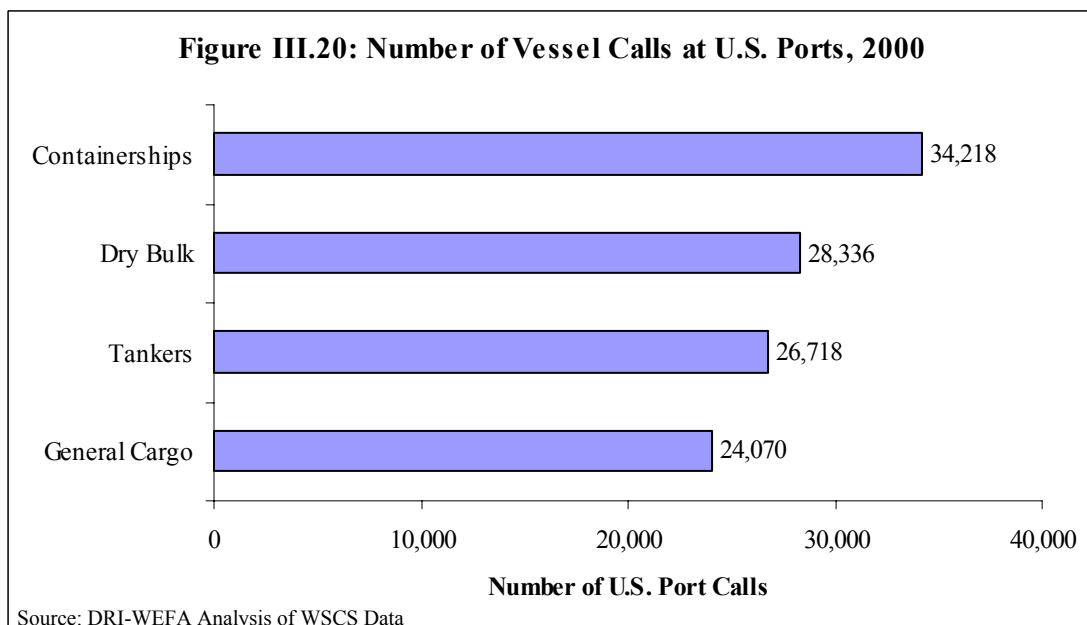


Source: DRI-WEFA Analysis of WSCS Data

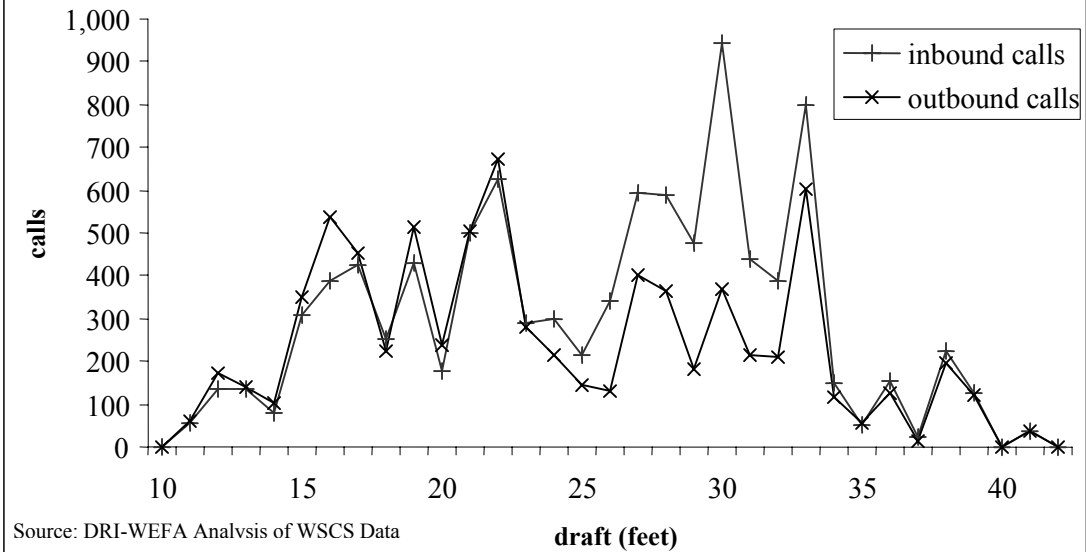


Calling on U.S. ports 34,218 times in 2000, containerships constitute the largest share of vessel calls on U.S. ports. The distribution of calls across types, however, is fairly evenly distributed. Dry bulk, tanker, and general cargo vessels make up 25%, 24%, and 21% of all vessel calls to the U.S., respectively.

Containerships, dry bulk vessels, and general cargo vessels all make roughly the same amount of inbound and outbound calls to U.S. ports (see in figures III.21 through III.24). Despite the U.S. maritime tonnage trade imbalance, a significant portion of bulk vessel ships enter U.S. ports laden with ballast, indicating that the demand for bulk ships to export cargo exceeds the demand to import cargo. Containerships, by their operating pattern and the nature of the trade they carry, neither enter nor leave U.S. ports with a significant use of ballast. Tankers, by contrast, very often exit U.S. ports with ballast rather than cargo. This is especially pronounced for tanker vessels having drafts greater than 40 feet.



**Figure III.21: Inbound and Outbound General Cargo
Calls by Draft Range, 2000 (number of calls)**



**Figure III.22: Inbound and Outbound Tanker Calls
by Draft Range, 2000 (number of calls)**

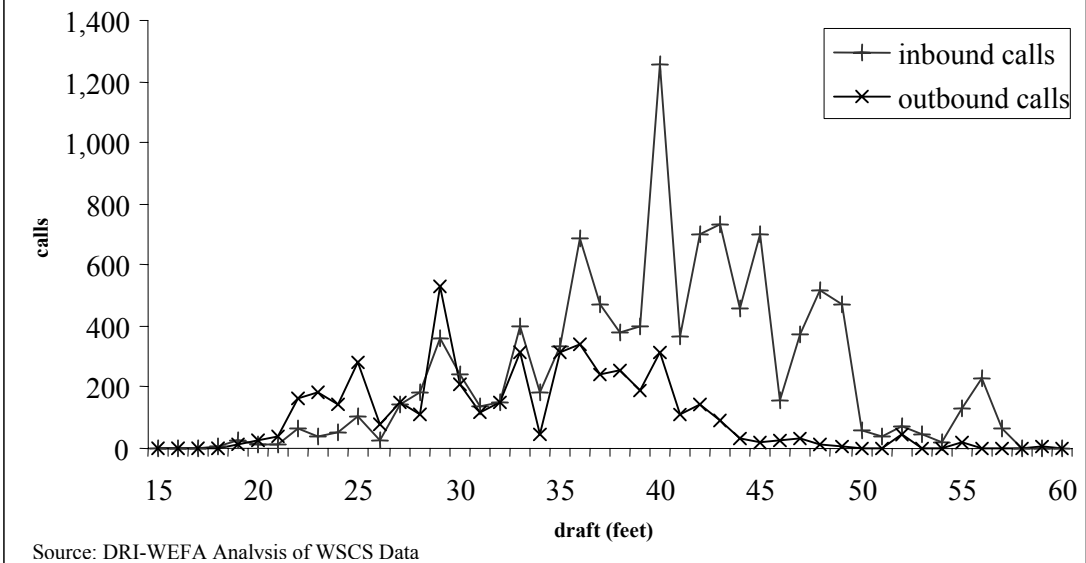


Figure III.23 Inbound and Outbound Dry Bulk Vessel Calls by Draft Range, 2000 (number of calls)

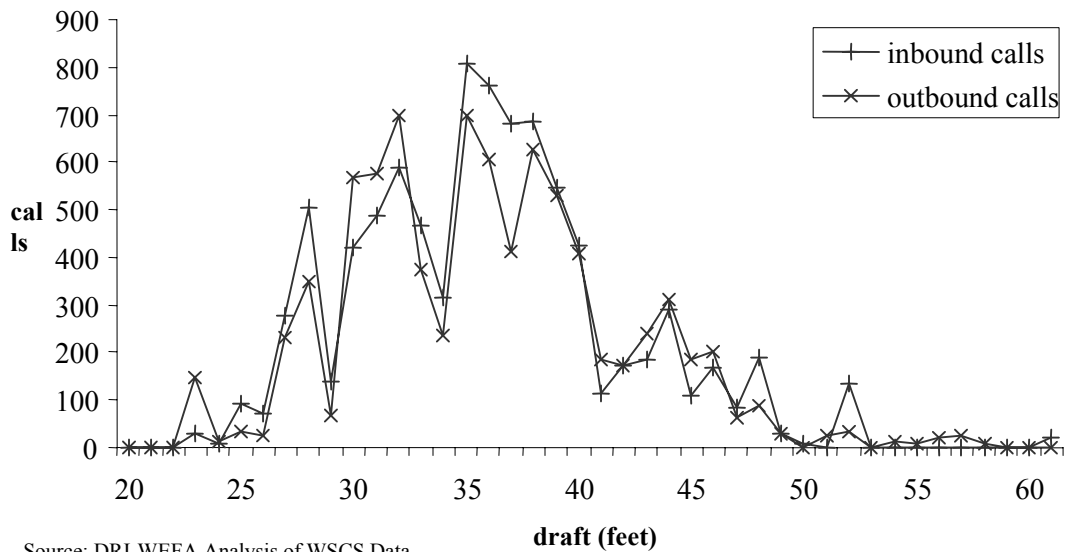
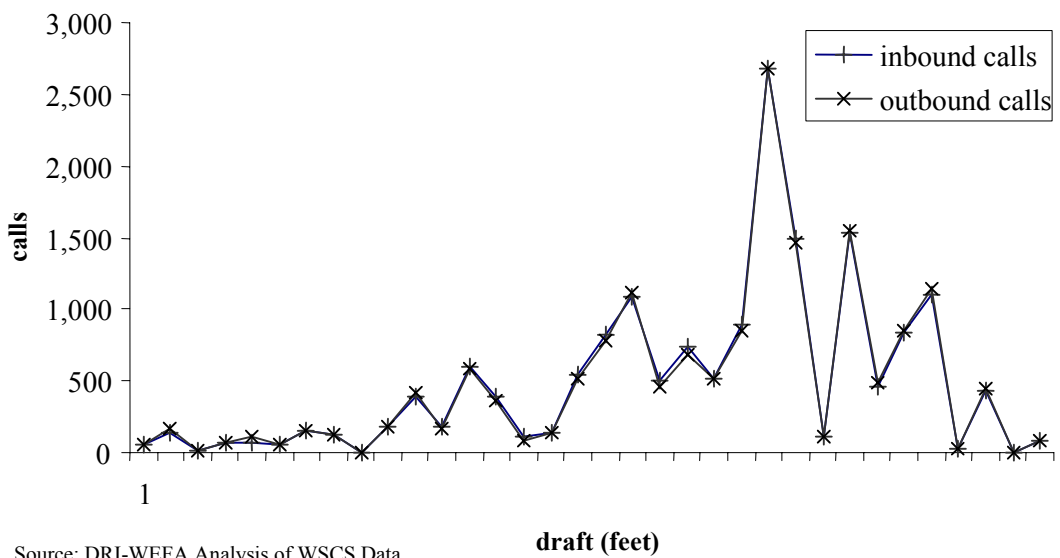


Figure III.24: Inbound and Outbound Container Calls by Draft Range, 2000 (number of calls)



CONCLUSIONS

Of the world cargo vessel fleet, the greatest tonnage capacity share is held by tanker and dry bulk vessel types. Container vessels are currently at about ten percent of the world fleet tonnage capacity (from zero 40 years ago). The general cargo vessel fleet is primarily made up of smaller capacity vessels with the oldest average age of all cargo vessel categories. The dry bulk vessel fleet is also primarily made up of smaller capacity vessels yet the largest dry bulk vessel size categories are seeing the most rapid growth in newly constructed dry bulk vessels due to the pursuit of economies of scale. Container ships are the most rapidly growing part of the world vessel fleet and the most rapid growth within the containership vessel fleet are the largest containerships.

The largest vessels in the world fleet, the giant crude oil tankers, have vessel drafts of over 70 feet. The average draft of the largest dry bulk vessels is almost 60 feet, though there are fewer giant dry bulk vessels than there are crude oil tankers in the world fleet. The largest container vessels now have design drafts close to 48 feet, with the average draft for the largest (over 5,000 TEU capacity) containership size category slightly more than 45 feet. Of the vessels calling U.S. ports, the design drafts of the vessels are generally in proportion to the draft distribution of the world fleet, except there are fewer of the smallest vessels of all types.

Containerships are the most frequent vessel type calling U.S. ports. This is not surprising given the regular calling pattern of containerships that are operated with several calls to U.S. ports during each voyage. Dry bulk and tanker vessels are the next most frequent vessel types calling U.S. ports, and general cargo vessels make the fewest calls at U.S. ports of all vessel classes. As would be expected from the way in which they are operated, container vessels and general cargo vessels are loaded to about the same sailing drafts on inbound and outbound portions of their U.S. vessel calls. In contrast, tanker vessels and dry bulk vessels are typically empty or lightly loaded in one direction, with tankers more frequently more heavily loaded inbound and bulk vessels more heavily loaded outbound.

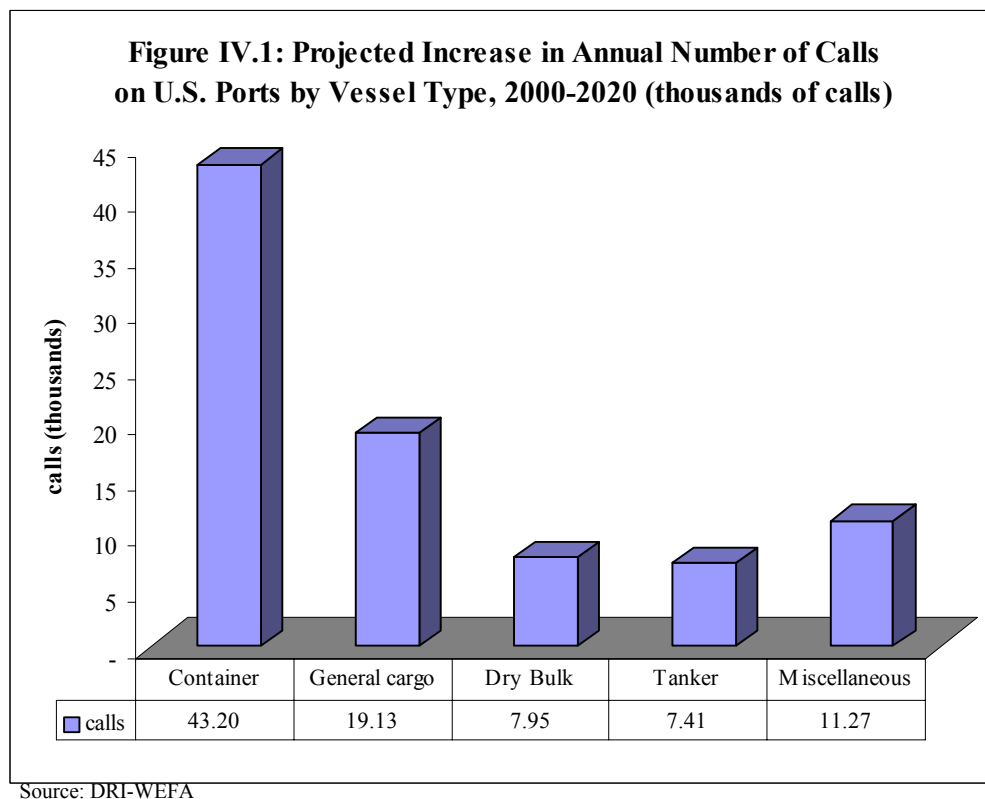
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4. THE PRESENT AND FUTURE IMPACT OF USACE PROJECTS

In the year 2000, 1.2 billion tons of U.S. commodity trade worth over \$1.5 billion passed through U.S. ports. By 2020, total tonnage is forecast to reach 1.8 billion tons and, in 2050, top 2 billion tons. In 2000, over one-quarter of vessels calling on U.S. ports are constrained from sailing into or out of our ports by unaccommodating channel and port depths. In 2000, of 95,550 calls, 29,749 were constrained by design drafts in excess of the local port and channel depths.

Table IV.1 Constrained Calls to U.S. Ports			
	2000	2010	2020
Constrained Calls			
With Projects	29,749	21,861	26,855
Without Projects	29,749	39,413	53,857
Total Annual Calls	95,550	129,928	184,629
Source: DRI-WEFA			

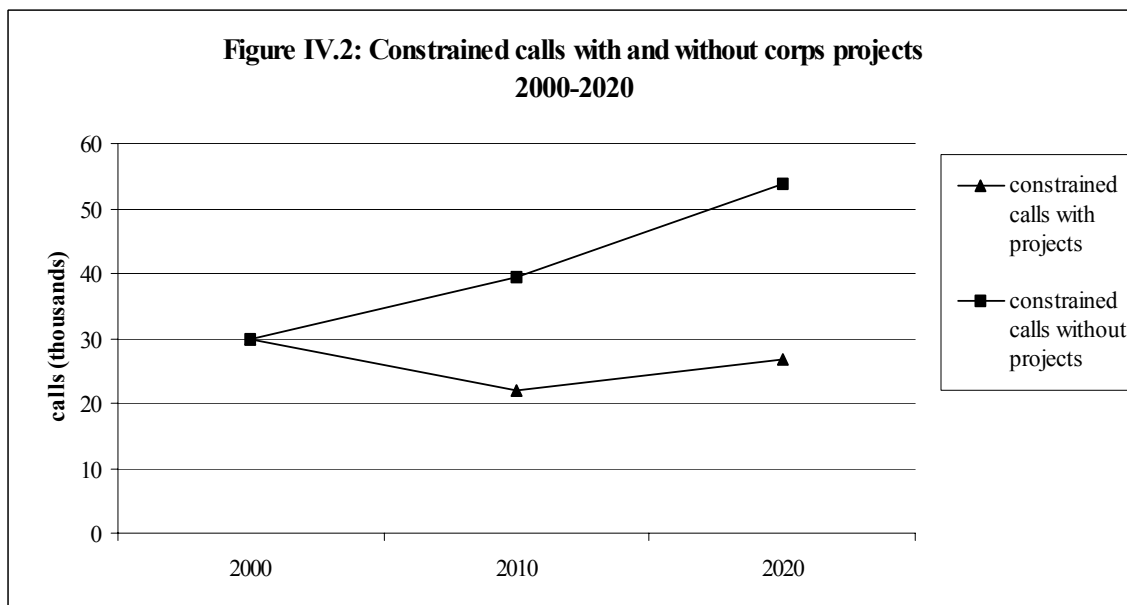
With the currently planned port and channel improvement projects, constrained calls fall from 29,749 in 2000 to 21,861 in 2010. Furthermore, with future planned investment, the forecast shows that, by 2020, of 184,629, representative of 1.8 billion tons of trade, only 15% of calls will be constrained from U.S. ports. If further dredging activity is ceased and if investment remains at maintenance levels (port depth will remain unchanged), no future improvement occurs in the number of constrained calls. In 2010, total traded tonnage reaches 1.4 billion and



of 130,000 calls, 39,413 calls are constrained from trading with U.S. ports. Without future investment, this number will be almost 54,000 by 2020.

Figure IV.1 depicts annual calls on U.S. ports by vessel type. In the next ten years, the number of calls to U.S. ports increases at an average annual rate of 3%. Port calls made by Dry Bulk and Tanker carriers experience relatively low levels of growth through this period, 1.99% and 1.97% respectively. General Cargo vessel calls maintain average levels of growth, averaging 3.4% per year. Expanding annually by 4.3% per year, the most substantial increase in annual calls to U.S. ports is by containerships, whose calls increase by 43,198 calls between 2000 and 2020.

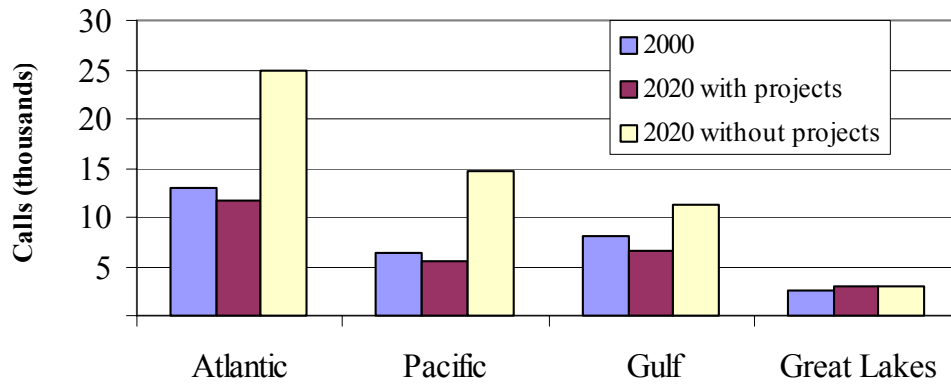
Future assumptions of maritime trade assume a movement of tonnage into larger, faster, more efficient vessels and vessel types. For example, trade previously shipped via 30,000 DWT general cargo vessel is expected to shift into a Post-Panamax container vessel. Under this shift, the problem of constrained trade will be exacerbated. The number of constrained calls, and therefore constrained tons and trade, will increase.



Source: DRI-WEFA

Total projected vessel calls, including constrained calls, are expected to rise annually by 3.35% between 2000 and 2020, escalating from approximately 95,550 in 2000 to approximately 184,629 in 2020. As is apparent in both Figures IV-2 and IV-3, without planned port expansion projects, the total number of calls constrained from calling on U.S. ports is expected to increase. Even under current plans for investment, the total number of restrained calls will remain at or about the same level. This is illustrated in Figure IV-3, constrained calls by coastal region with and without planned corps projects. Without planned projects, among the regions, the Atlantic region will account for the largest share in the total constrained calls in 2020, estimated at 46.1% followed by the Pacific, Gulf, and Great Lakes, which will account for 27.3%, 20.9%, and 5.6% respectively.

Figure IV.3: Constrained Calls by Coastal Region with and without Planned Corps Projects, 2000-2020



Source: DRI-WEFA

Table IV.2
Projected Constrained Tonnage for the United States, 2000-2020
(millions of constrained tons)

With Planned Projects	2000	2010	2020	% Annual change
Total Projected Tonnage	1185.6	1423.8	1724.5	1.9%
Constrained Tonnage	752.1	653.8	671.4	-0.6%
Percent Constrained	63.4%	45.9%	38.9%	-2.4%
Distribution of constrained tonnage by coastal region				
Atlantic	215.7	196.5	206.2	-0.2%
Pacific	78.3	67.0	83.2	0.3%
Gulf	412.6	341.0	329.7	-1.1%
Great Lakes	45.6	49.3	52.4	0.7%
Without Planned Projects	2000	2010	2020	% Annual change
Total Projected Tonnage	1185.6	1423.8	1724.5	1.9%
Constrained Tonnage	752.1	864.9	984.9	1.3%
Percent Constrained	63.4%	60.7%	57.1%	-0.5%
Distribution of constrained tonnage by coastal region				
Atlantic	215.7	253.2	294.8	1.6%
Pacific	78.3	99.3	129.5	2.5%
Gulf	412.6	463.0	508.2	1.0%
Great Lakes	45.6	49.3	52.4	0.7%
Source: DRI-WEFA				

In 2000, the national average for the constrained trade was 64% of total trade. Just over half of the constrained tonnage was traded through Gulf Coast ports, and the Atlantic Coast is responsible for another 29%. Similarly, half of total U.S. maritime tonnage trade flows through Gulf Coast ports, and another 29% through Atlantic Coast ports. The Pacific Coast, responsible for 17% of U.S. trade, has 10% of the constrained tonnage. And the Great Lakes, comprising only 4% of trade, has 6% of constrained tons for the Gulf, Atlantic, Pacific, and Great Lakes regions, the regional shares of constrained trade, in tons, are 70%, 64%, 38%, and 90% respectively. Over the next twenty years, the Pacific Coast will see the most rapid growth in the number of constrained tonnage, increasing annual at 2.5% per year (see Table IV.1).

The projected constrained calls by coastal region between 2000 and 2020 are depicted in Table IV-2. The Atlantic Coast has the largest amount of constrained calls, equivalent to 43% of all constrained call. In second place, the Gulf Coast represents 27% of constrained calls. One third of all calls on U.S. ports are constrained in 2000. The Atlantic, Pacific, Gulf, and Great Lakes Coasts have constrained call shares of total calls to that coast of 29%, 28%, 38%, and 80%, respectively. Constrained calls in the Atlantic and Gulf Coasts carry larger trade tonnage on average than do constrained calls at Pacific ports.

Table IV.3 Projected Constrained Calls for the United States, 2000-2020 (Thousands of constrained calls)				
With Planned Projects	2000	2010	2020	% Change
Total Projected Calls	95.55	129.93	184.63	3.3%
Constrained Calls	29.75	21.86	26.86	-0.5%
Percent Constrained	31.1%	16.8%	14.5%	-3.7%
Distribution of constrained calls by coastal region				
Atlantic	12.87	9.05	11.77	-0.4%
Pacific	6.40	3.90	5.54	-0.7%
Gulf	8.01	6.16	6.52	-1.0%
Great Lakes	2.47	2.76	3.02	1.0%
Without Planned Projects	2000	2010	2020	% Change
Total Projected Calls	95.55	129.93	184.63	3.3%
Constrained Calls	29.75	39.41	53.86	3.0%
Percent Constrained	31.1%	30.3%	29.2%	-0.3%
Distribution of constrained calls by coastal region				
Atlantic	12.87	17.66	24.85	3.3%
Pacific	6.40	9.46	14.69	4.2%
Gulf	8.01	9.54	11.30	1.7%
Great Lakes	2.47	2.76	3.02	1.0%
Source: DRI-WEFA				

4.1 GULF REGION

Total vessel calls to the Gulf region are expected to expand annually by around 2.6%, rising from 23,867 calls in 2000 to 39,855 calls in 2020. Tanker and dry bulk cargo ships will dominate the vessel activity, accounting for 38% and 28% of vessel calls respectively. On the other hand, the total number of constrained calls in this region is expected to decline by 1.0% per year, falling from 8,005 in 2000 to 6,522 in 2020.

Relative to total calls, constrained calls experience little substantial growth over the next ten years. Tanker ships will account for the largest share of constrained calls, estimated at 38%, followed by the bulk ships at 28% (see Table IV.4). Under current investment schedules, both total constrained tonnage and total constrained calls will decrease over the next ten years. The miscellaneous ship (including passenger and military vessels) type category is expected to present the fastest growth within constrained calls, expanding by 4.78% per year between 2000 and 2020, but still accounting for a minimal share of total constrained calls in 2020.

Table IV.4 Projected Number of Calls to and from the Gulf Coast by Ship Type, 2000, 2010, and 2020 (thousands of calls)					
Ship Type	Year 2000	Year 2010	Year 2020	Total Change	% Annual Growth
Total	23.87	30.33	39.86	15.99	2.6%
Tanker	8.98	10.75	13.05	4.08	1.9%
Dry Bulk	6.65	8.08	9.92	3.27	2.0%
General cargo	3.48	4.62	6.43	2.95	3.1%
Container	2.74	3.86	5.63	2.89	3.7%
Miscellaneous	2.1	3.1	5.0	4.08	4.6%
Source: DRI-WEFA					

Table IV.5 Projected Constrained Calls and Tonnage for the Gulf Coast by Ship Type, 2000-2020 (Thousands of calls and millions of metric tons)				
	Year 2000	Year 2010	Year 2020	% Annual Change
Total Constrained Calls	13.4	10.6	11.0	-1.01%
Tanker	8.1	6.6	6.0	-1.45%
Dry Bulk	4.1	3.1	3.5	-0.75%
Container	1.1	.8	1.2	0.46%
General cargo	.1	.1	.1	0.67%
Miscellaneous	0.02	0.04	0.06	4.78%
Total Constrained Tons	412.6	341.0	329.7	-1.11%
Tanker	295.8	253.2	231.8	-1.21%
Dry Bulk	110.2	83.7	92.3	-0.88%
Container	6.4	3.9	5.4	-0.85%
General cargo	.2	.2	.2	0.92%
Miscellaneous	2.4	4.5	8.9	6.76%
Source: DRI-WEFA				

4.2 ATLANTIC COAST

Total vessel calls to the Atlantic Coast are expected to rise 47,153 in 2000 to about 93,544 in 2020. The fastest growing shipping segment are containerships, whose calls to ports in the Atlantic region will expand by an impressive 4% per year between 2000 and 2020 (see Table IV.5). Following containerships are general cargo vessels, which will expand by 3.7% per year through the same period. In 2020, the largest share of the total is accounted for by containerships (40,123 calls or 43%), followed by general cargo ships (28,156 calls).

Table IV.6 represents the future expectations of constrained calls to the Atlantic Coast under current levels of investment. During this forecast period, the number of constrained calls is expected remain at the same level averaging about 17,000 between 2000 and 2020. Currently, containerships account for the largest share of constrained calls to the Atlantic Coast, around 40%.

Table IV.5 Projected Number of Calls to and from the Atlantic Coast by Ship Type, 2000, 2010, and 2020 (thousands of calls)					
Ship Type	Year 2000	Year 2010	Year 2020	Total Change	% Annual Growth
Total	47.2	64.7	93.5	46.4	3.5%
Container	18.5	26.9	40.1	21.6	3.9%
General cargo	13.6	18.9	28.2	14.5	3.7%
Miscellaneous	6.19	8.10	11.89	5.7	3.3%
Tanker	4.4	5.4	6.6	2.2	2.0%
Dry Bulk	4.4	5.4	6.8	2.4	2.2%

Source: DRI-WEFA

Table IV.6 Projected Constrained Calls and Tonnage for the Atlantic Coast by Ship Type, 2000-2020 (Thousands of calls and millions of metric tons)				
	Year 2000	Year 2010	Year 2020	% Annual Change
Total Constrained Calls	17.0	13.3	17.0	-0.03%
Container	7.4	3.6	5.2	-1.75%
Tanker	5.0	4.9	5.4	0.45%
Dry Bulk	2.9	2.7	3.1	0.40%
General cargo	1.6	1.8	3.0	3.15%
Miscellaneous	0.1	0.1	0.2	1.20%
Total Constrained Tons	215.7	196.5	206.2	-0.22%
Container	33.5	15.6	21.0	-2.00%
Tanker	128.0	126.9	127.8	-0.01%
Dry Bulk	52.8	52.8	55.7	0.26%
General cargo	1.4	1.2	1.7	1.58%
Miscellaneous	0.04	0.04	0.05	-0.37%

Source: DRI-WEFA

4.3 PACIFIC COAST

Port calls to the Pacific Coast are expected to increase by 4% per annum, rising from 28,360 in 2000 to approximately 63,884 in 2020. Currently, calls made by containerships account for 42.6% of all calls to ports along the U.S. West Coast. By 2020, containerships will account for over half of the calls to these ports, over 57%, with bulk contributing to a small share of the rest, 12.7% respectively.

In 2020, 7,900 calls to Pacific ports will be constrained due to size restriction. This amounts to over 83 million tons of cargo. The fastest growth in constrained calls will occur within general cargo, which will be expanding by 3.1% per year. However, container and bulk type ships will account for the majority of constrained calls, estimated at 47.6% and 32.5% respectively.

Table IV.7 Projected Number of Calls to and from the Pacific Coast by Ship Type, 2000, 2010, and 2020 (thousands of calls)					
Ship Type	Year 2000	Year 2010	Year 2020	Total Change	% Annual Growth
Total	21.5	31.0	47.1	25.6	4.0%
Container	11.7	18.5	30.4	18.7	4.9%
Dry Bulk	3.5	4.1	5.1	1.6	1.9%
Miscellaneous	2.3	3.2	4.7	2.4	3.6%
General cargo	2.1	2.8	3.9	1.8	3.1%
Tanker	1.9	2.3	3.0	1.1	2.4%

Source: DRI-WEFA

Table IV.8 Projected Constrained Calls and Tonnage for the Pacific Coast by Ship Type, 2000-2020 (Thousands of calls and millions of metric tons)				
	Year 2000	Year 2010	Year 2020	% Annual Change
Total Constrained Calls	8.0	5.5	7.9	-0.04%
Container	4.5	2.2	3.8	-0.89%
Dry Bulk	2.2	2.1	2.6	0.79%
Tanker	1.1	1.1	1.2	0.72%
General cargo	0.2	0.2	0.3	2.55%
Miscellaneous	.01	.02	.03	4.22%
Total Constrained Tons	78.3	67.0	83.2	0.30%
Tanker	29.0	27.4	29.3	0.05%
Dry Bulk	28.1	26.2	32.3	0.70%
Container	20.9	13.0	21.1	0.05%
General cargo	0.3	0.4	0.5	2.33%
Miscellaneous	.02	.03	.05	4.52%

Source: DRI-WEFA

4.4 GREAT LAKES

Within the Great Lakes Region, total ship calls will increase 1.4% per year, climbing from 3,055 in 2000 to about 4,048 in 2020. Dry Bulk vessels capture the largest share of total calls; this ship type will account 82% of total calls in 2020. Under current project levels, total constrained calls to the Great Lakes are expected to increase slightly, growing from 4,444 in 2000 to approximately 5,404 in 2020. The fastest growing numbers of constrained calls by ship type will occur in the tanker ship type (Table IV.10).

In this region, the bulk ships will remain dominant across ship types, accounting for about 95% of the total constrained calls. Over the period of this forecast, constrained calls for Dry Bulk vessels in the region increase at a rate of .95% per year.

Table IV.9 Projected Number of Calls to and from the Great Lakes by Ship Type, 2000, 2010, and 2020 (thousands of calls)					
Ship Type	Year 2000	Year 2010	Year 2020	Total Change	% Annual Growth
Total	3.1	3.5	4.0	1.0	1.4%
Dry Bulk	2.5	2.8	3.2	0.7	1.2%
Miscellaneous	0.3	0.4	0.6	0.2	2.7%
General cargo	0.1	0.2	0.2	0.1	1.5%
Tanker	0.1	0.1	0.1	0.0	2.2%
Source: DRI-WEFA					

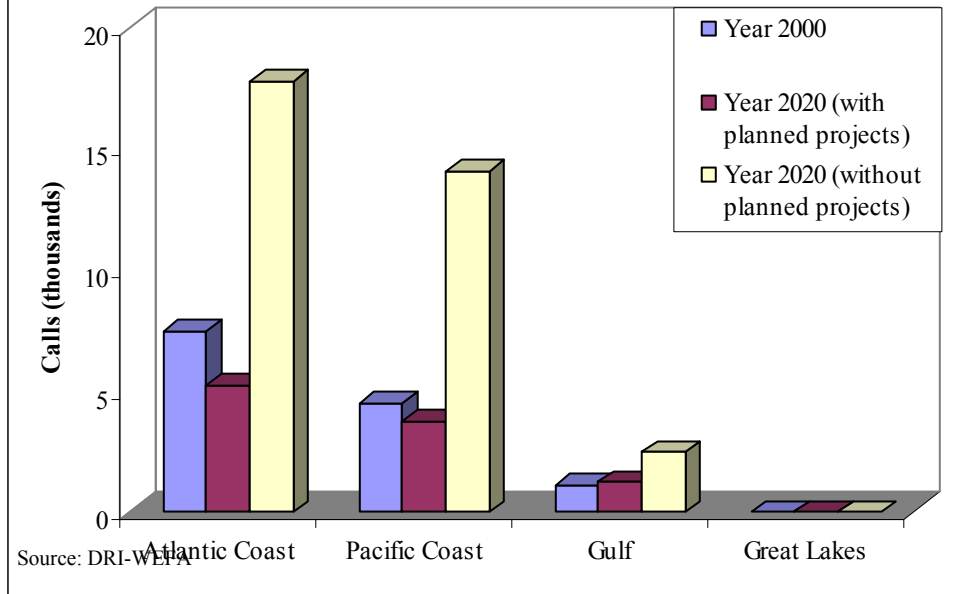
Table IV.10 Projected Constrained Calls and Tonnage for the Great Lakes by Ship Type, 2000-2020 (Thousands of calls and millions of metric tons)				
	Year 2000	Year 2010	Year 2020	% Annual Change
Total Constrained Calls	4.4	4.9	5.4	0.98%
Dry Bulk	4.2	4.7	5.1	0.95%
General cargo	0.12	0.13	0.13	0.42%
Tanker	0.07	0.10	0.13	3.17%
Containership	-	-	-	-
Total Constrained Tons	45.6	49.3	52.4	0.69%
Dry Bulk	43.8	47.4	50.2	0.68%
General cargo	1.4	1.4	1.4	0.26%
Tanker	.4	.5	.7	3.10%
Containership	-	-	-	-
Source: DRI-WEFA				

4.5 CONTAINERSHIPS

Much of the value of U.S. trade is transported by containerships. Consequently, it is sensible to discuss separately the containership calls that are constrained. While the Pacific Coast has the most container traffic, it is the Atlantic Coast where container calls are most often under draft constraints. In 2020, without planned projects, constrained container calls are expected to increase by 139% for the Atlantic Coast, 211% for the Pacific Coast, and 117% for the Gulf Coast. The total number of constrained container calls should just about double. With planned projects, the Atlantic Coast, the Pacific Coast, the Gulf Coast should see reductions of 86%, 60%, and 47% respectively.

Table IV.11 Constrained Containership Calls by Coastal Region with and without Planned Corps Projects: Year 2000 and 2020 (thousands of calls)						
Coastal Region	Year 2000	Coastal Share of constrained calls	Year 2020 (with planned projects)	Coastal Share of constrained calls	Year 2020 (without planned projects)	Coastal share of constraine d calls
Atlantic Coast	7.43	57%	1.07	31%	17.74	52%
Pacific Coast	4.51	35%	1.81	52%	14.03	41%
Gulf Coast	1.13	9%	.59	17%	2.45	7%
Total	13.07	100%	3.47	100%	34.22	100%
Source: DRI-WEFA						

Figure IV.4: Constrained Containership Calls by Coastal Region with and without Planned Corps Projects: Year 2000 and 2020 (thousands of calls)



CONCLUSIONS

Based on the forecast growth in U.S. waterborne trade volumes, the number of vessel calls required to carry the trade will be higher in the future. Though the increase in trade affects the calling activity of all vessel types, container ships will see the greatest increases in the number of vessel calls, with or without the completion of planned navigation channel projects. However, completion of the planned channel projects will reduce the number of future vessel calls that otherwise would be channel depth constrained. Containerized trade will see the greatest reduction in the number of otherwise depth-constrained vessel calls from planned deepening projects. Conversely, without the planned channel projects, the containerships will experience the greatest increases in channel depth-constrained vessel calls.

The distribution of channel depth constraints is uneven across the country. The Atlantic Coast ports today have the largest number of cargo vessel calls constrained by channel dimensions. The Gulf of Mexico ports have the next greatest number of constrained vessel calls. With planned channel improvements all coastal ranges will experience some reduction in the number of constrained vessel calls. However the Pacific Coast ports will see the greatest reduction in constrained vessel calls in comparison without further channel deepening projects.

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5. THE METHODOLOGY OF THE VESSEL SHIFT FORECAST

To estimate future impacts of channel depth constraints on cargo vessels calling U.S. ports, the forecast demand for seaborne trade was applied to a forecast of the vessel fleet, by vessel type and size. This estimation used a shift upwards in the sizes of vessels to be used in the future to carry the forecast tonnage.

5.1 OVERVIEW OF THE PROCESS

The process used to forecast the shifted vessel calls can be summarized as follows. (1) The base year 2000 cargo tons and forecast cargo tons for each vessel call were summarized by vessel call (vessel, channel, port, date). (2) During each 10 year forecast period (2010, 2020, etc) the forecast tons by vessel call were shifted to forecast shifted vessel types and sizes, which generally shifted 20% of the tons in each vessel size to the next vessel size by type. For selected vessel types such as general cargo and combination vessels, cargo tonnage was shifted 20% to another vessel type. (3) The average deadweight and draft by vessel type and size were calculated from Clarkson's world fleet, including the vessel order book, for October 2001. The average utilization by vessel type and port (not by vessel size) based on the tons carried and the average vessel deadweight from the Clarkson fleet was calculated and used to compute the average load per call. Utilizations calculated at below 10% and above 100% were adjusted to 10% and 100%, respectively, and the utilization was multiplied by the vessel deadweight to compute average cargo load per call. (4) The average load per call was divided into the forecast tons by vessel type and size to compute projected vessel calls. (5) The inbound and outbound vessel calls by vessel type and size were compared to compute ballast calls needed to balance the calls by vessel type and size. (6) The forecasted calls by vessel type and size were compared with the selected channel depth by location to identify constrained vessel calls. Constrained vessel calls were defined as vessel calls for which the channel depth does not exceed the design draft by a 10% safety margin, which is intended to capture understated clearance and vessel squat allowances by pilots.

5.2 DETAILED DESCRIPTION OF THE PROCESS

The first step in the forecast of shifted vessel calls was to compute the base level of vessel calls. A vessel call was defined as a specific vessel at a specific location and port on a specific date. Note the location was defined by the channel code included in the records from the match of the trip file. The cargo tons for each vessel call were summarized for all commodities and origins and destinations for the base year and forecast years. This produced the summary of cargo tons and forecast tons by vessel call (vessel, channel/location, port and date).

The second step was to forecast the shift of cargo tons by vessel type and size to future vessel types and sizes. Analysis of past trends in the cargo vessel fleet, including impacts of vessel scrapping and the new building order book showed patterns of ongoing shifts between vessel types and use of increased sizes of vessels, by vessel type. Based on this analysis the process generally used a 20% shift of tons from the base vessel type and size to the shifted vessel type and size. For most vessel types and sizes the shift was to the next larger vessel size (10,000-

deadweight group) over each 10-year period. For selected vessel types such as general cargo and combination vessels the shift was from one vessel type to another vessel type. The calculations required forecasting the shift during 2010 through all future years and then the shift for 2020 through all future years was applied to the 2010 results. In turn each forecast year was calculated. The calculations summed the shifted tons to the vessel type and size with the remaining tons in each vessel type and size. The results of this process produced the forecast of tons by vessel type and size after all shifts were made throughout the forecast period.

The third step calculated the vessel capacity utilization by vessel type and size by port and then used the resulting vessel capacity utilization to compute average cargo loads (tons per call) by vessel type and size and by port. The vessel capacity utilization was calculated using the average vessel deadweight and draft characteristics data from the October 2001 Clarkson's world vessel fleet database, including order book vessels, and the tonnage carried by vessel call. The average vessel deadweight and draft information from the Clarkson's database were used instead of the actual base year vessel deadweight and draft because the world fleet characteristics are used for the shifted vessel types and sizes in the forecast period. In order to compute the world vessel fleet characteristics, the Clarkson's fleet and order book data were aggregated by vessel type and size and the average deadweight and draft computed, for each category.

The vessel capacity utilization by call was computed by comparing the average vessel deadweight with the cargo tons by call. The average vessel capacity utilization by vessel type (not by size) was then computed for each location/port. (Note that the calculated utilization is not utilization in the normal sense. This utilization measured the portion of total capacity loaded or unloaded during the vessel call, not the share of total capacity used by all of the cargo on the vessel.) The average utilization was reviewed and then adjusted if the calculated utilization (tons per call divided by deadweight) was below 10% or above 100%. (The constraint minimized the impact of vessel calls which carried small amounts of cargo and which would have exaggerated future vessel calls and also calculated additional vessel calls when the cargo reported for the vessel exceed the capacity, potentially due to a missing or mismatched vessel call). The average utilization by vessel type and location/port was then multiplied by the vessel deadweight to compute the average cargo load per vessel call.

The average load per vessel call from step 3 was divided into the shifted forecast tons from step 2 by vessel type and size by port/location to calculate vessel calls by vessel type and size and port. The result is the forecast of vessel calls with cargo.

The ballast calls by vessel type and size were calculated next. The inbound and outbound vessel calls with cargo by vessel type and size were compared for each location and port by forecast year. Ballast calls required to balance the number of loaded calls by vessel type and size and direction were computed for each port/location and forecast year. The ballast calls were estimated to account for the vessel activity caused by the need to return empty vessels (mostly bulk) to the source loading ports. These ballast calls assure that vessels move both inbound and outbound from each port and are therefore available for subsequent laden calls. It is important to note, however, that these ballast calls are not considered in calculations of constrained calls, which consider only laden vessel movements.

The final step was the calculation of constrained calls. This step involved the comparison of the projected vessel calls by design draft (plus 10%) with the channel depth by port and location.

The channel depths were based on the channel depths by location from the prior analysis. For those few cases where the ports and locations did not match with the location depths from the previous study, due to revisions or changes in the data, the analysis used port depths computed from relevant port depths from the previous shift analysis. These cases represent a very small percentage of the ports that are outside of the projects under the jurisdiction of the US Army Corps of Engineers. The channel depth used in the initial calculation was the selected depth, which was based on the 2000 location depths from prior analysis, plus the supplemental port depths, if necessary.

The comparison between the channel depth and 110% of the design draft was made and the tons and calls for those vessels with drafts in excess of channel depth were defined as constrained. The shifted vessel call data file also includes the location depths for 2010 and 2020 computed in the prior analysis. These depths are used to determine the constrained tons and calls with channel depths increased in 2010 and 2020 by navigation projects.

CONCLUSIONS

To estimate future constraints on cargo vessels from channel depth limitations, the forecast commodity tonnage was allocated to the forecast vessel fleet generally assuming a continued shift to larger capacity vessels. This approach was carried out for each ten-year period in the forecast to 2050. The number of laden future vessel calls were then estimated using average load-per-vessel-call factors derived, for each vessel type and size class, from the historical Waterborne Commerce Statistics vessel trip data. To these laden vessel calls were added estimates of unladen vessel movements to account for ballast movements. The calculation of depth-constrained vessel calls was made by comparing the drafts of the forecast laden vessel calls to the channel depths, with an allowance for safe vessel operating practices including underkeel clearance and vessel squat.

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APPENDICES

APPENDIX A

Appendix A-1 Port/Location Channel Depths						
Port Name	Location Code	Location Name	CWI S	Channel Depth (feet)		
				2000	2010	2020
Aberdeen-Hoquiam, WA	91022	Grays Harbor, & Chehalis River WA/North Aberdeen And North Channel	6770	30	30	30
	91018	Grays Hbr & Chehalis River, WA South Aberdeen	6770	30	30	30
	91016	Grays Hbr & Chehalis River, WA Westhaven	6770	30	30	30
Albany, NY	3093	Catskill, NY	7810	32	32	32
	3085	Cementon, NY	7810	32	32	32
	3130	Albany, NY	7810	32	32	32
	3135	Rensselaer, NY	7810	14	14	14
	3114	Coeymans, NY	7810	32	32	32
Alpena, MI	76133	Alpena, MI	74196	18.5	18.5	18.5
	76148	Stoneport, MI		25	25	25
Anchorage, AK	94811	Juneau Gastineau Channel, AK		50	50	50
	98830	Kivilina, AK (coast)		75	75	75
	93810	Ketchikan, AK (Tongass Narrows)	72798	15	15	15
	94952	Hoonah, AK	76001	18.5	18.5	18.5
	94965	Skagway Harbor, AK	72846	30	30	30
	95270	Nikishki, AK		42	42	42
	96398	Togiak, AK (Bristol Bay)		75	75	75
	96100	False, Pass, AK (coast)		75	75	75
	96080	Unak Bay & Island, AK/(Iliuliuk & Dutch Hbr.)	72796	25	25	25
	96050	Adak Island, AK (coast)		75	75	75
	96045	St., Paul Is., AK (Pribilof Island-coast)		29	29	29
	95430	Humboldt Harbor, AK (coast)	74949	18	18	18
	95353	Kodiak Island, AK (coast)		75	75	75
	95300	Afognak Island, AK		48	48	48
	93802	Revillagigedo Channel		43	43	43
	95290	Anchorage, AK	360	43	43	43
	95050	Icy Bay, AK		43	43	43
	95220	Homer, AK	80508	20	20	20
	95180	Seward, AK	72765	15	15	15
	95175	Whittier, AK		45	45	45
Ashtabula, OH	72101	Ashtabula Harbor, OH	650	28	28	28
Astoria, OR	90120	Little Sandy River, OR	3620	27	27	27
	90041	Wauna, OR	3630	40	43	43
Baltimore, MD	5550	Baltimore Hbr and Channels, MD	870	50	50	50
	6001	Potomac River Below Washington DC	294	24	24	24
Baton Rouge, LA	20187	Lower Miss River Mile 187	68	45	50	55
	20200	Lower Miss River Mile 200	68	45	50	55
Bellingham, WA	91287	Bellingham Bay & Harbor, WA Main Channel	1310	30	30	30
	91288	Bellingham Bay & Harbor, WA/Squalicum Creek Waterway	1310	30	30	30
Boston, MA	701	Boston, MA Main Water Front	1960	40	45	45
	702	Boston, MA Chelsea River	76132	38	38	38
	712	Boston MA Town River	19790	35	35	35

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Port Name	Location Code	Location Name	CWI S	Channel Depth (feet)		
				2000	2010	2020
Boston, MA	704	Boston MA Island End River		40	40	40
	703	Boston, MA Mystic River	431	40	40	40
	711	Boston, MA Weymouth Fore River	19790	35	35	35
Bridgeport, CT	1646	New Haven, CT Main Harbor	12380	35	35	35
	1687	Bridgeport, CT Main Harbor	73360	35	35	35
Brownsville, TX	66683	Brownsville Ship Channel, TX	1990	36	36	36
Brunswick, GA	13170	Brunswick Hbr, GA	2080	30	36	36
Buffalo, NY	72345	Niagara River New York Or Harriet		22	22	22
	72350	Buffalo Harbor, NY	2140	27	27	27
Charleston, SC	12219	Cooper River Above Charleston Hbr		40	40	40
	12214	Charleston Ashley River, SC	74464	30	30	30
	12213	Charleston Shipyard River, SC	16730	38	38	38
	12310	Port Royal, SC	14380	27	27	27
	12216	Wando River, SC	2980	40	45	45
	12212	Charleston Cooper River, SC	2980	40	45	45
Chester, PA	4440	Marcus Hook, PA	4570	40	45	45
	4660	Christina River Wilmington De	20040	38	38	38
Chicago, IL	77632	Indiana Harbor Indiana East Chicago, IN	18120	22	22	22
	77625	Burns Waterway Harbor, IN	2250	27	27	27
	77641	Thru 77647 Port Of Chicago Il/calumet Harbor, & River Il & In-south Chicago	2410	27	27	27
	77642	Lake Calumet, IL	2410	27	27	27
	77665	Waukegan, IL	19560	16	16	16
Cleveland, OH	72014	Toledo, OH	18280	28	28	28
	72073	Cleveland Harbor, OH	3430	28	28	28
Conneaut, OH	72108	Conneaut Harbor, OH	3770	27	27	27
Coos Bay, OR	90106	Vancouver, WA	3630	40	40	40
	90508	Portland, OR	3630	40	40	40
	90911	Coos Bay, OR Inside Channel To/Millington, OR	3840	35	35	35
Corpus Christie, TX	60658	Matagorda Ship Channel, TX	10810	38	38	38
Destrehan, LA	20116	Lower Miss River Mile 116	68	45	50	55
Detroit, MI	73013	Detroit, MI	4710	27	27	27
	73012	Dearborn MI See Rouge Riv/Rouge River MI Dearborn MI	15590	25	25	25
	73011	Ecorse, MI	4710	27	27	27
	72007	Monroe Harbor, MI	11760	21	21	21
Duluth, MN	79311	Silver Bay, MN		30	30	30
	79286	Duluth, MN	5050	27	27	27
	79283	Superior, WI	5050	27	27	27
Eastport, ME	51	Eastport Hbr, ME		40	40	40
Erie, PA	72122	Erie Harbor, PA	5600	29	29	29
Eureka, CA	82690	Humboldt Hbr & Bay, CA	7860	38	38	38
Everett, WA	91249	Everett Harbor, WA Outer Harbor	5700	30	30	30
Fajardo, PR	17210	Fajardo Hbr, PR		24	24	24
	17710	Mayaguez Hbr, PR	22280	30	30	30

Appendix A-1 Port/Location Channel Depths						
Port Name	Location Code	Location Name	CWI S	Channel Depth (feet)		
				2000	2010	2020
Fall River, MA	1346	Fall River Hbr, MA	9410	35	35	35
Fernandina Beach, FL	13224	Fernandina, FL	5840	36	36	36
Ferrysburg, MI	77567	Grand Haven Harbor, MI	6670	21	21	21
Fort Pierce, FL	14213	Fort Pierce Hbr, FL	6260	28	28	28
Freeport, TX	60770	Corpus Christi, TX	14340	45	50	50
Galveston, TX	66355	Galveston Channel, TX	6340	40	45	45
	66351	Thru 66540 Giww Galveston To Corpus Christi		40	40	40
	60370	Houston Ship Channel, TX	7780	40	45	45
	60518	Freeport Harbor, TX	6170	45	45	45
	60414	Texas City, TX	18130	40	40	50
Gary, IN	77629	Gary, IN		27	27	27
Gramercy, LA	20140	Lower Miss River Mile 140	68	45	50	55
	20160	Lower Miss River Mile 160	68	45	50	55
Gulfport, MS	15556	Bayou Casotte, MS		36	36	36
	15590	Biloxi Harbor, MS		36	36	36
	15610	Gulfport Hbr & Ship Is Pass, MS	7150	36	36	36
	15641	East Pearl River, MS		9	9	9
Honolulu, HI	84752	Honolulu Hbr, Oahu, HI	7660	45	45	45
	84746	Barbers Point Channel Oahu	910	42	46	46
Jacksonville, FL	14018	Jacksonville Harbor, FL	8410	38	40	40
Jobos, PR	17628	Guanica Hbr, PR		24	24	24
Lake Charles, TX	20955	Calcasieu River and Pass Lake Charles, LA	2440	40	40	40
Long Beach, CA	80170	Newport Bay Harbor, CA	74720	20	20	20
	80265	El Segundo, CA		59	59	59
Los Angeles, CA	80200	Long Beach Harbor, CA	74719	50	76	76
	80201	Long Beach Outer Harbor, CA	74719	60	76	76
	80210	Los Angeles Harbor, CA	74719	81	81	81
Marcus Hook , PA	4450	Chester, PA	4570	40	45	45
Marquette, MI	76101	Alabaster, MI		25	25	25
	76159	Calcite, MI		25	25	25
Mayaguez, PR	17057	Arecibo Harbor, PR	20500	25	25	25
Miami, FL	14326	Miami River, FL	74379	15	15	15
	14325	Miami Harbor, FL	10140	42	50	50
	14311	Port Everglades Hbr, FL	76031	42	42	42
Milwaukee, WI	77690	Milwaukee, WI	11270	27	27	27
	77825	Green Bay, WI	6910	24	24	24
Mobile, AL	15518	Bayou La Batre, AL		15	15	15
	15495	Mobile Harbor AL	11670	45	50	55
	15497	Mobile Harbor, AL Chickasaw Creek	11670	45	50	55
Morehead City-Beaufort	11590	Morehead City Hbr, NC	11810	45	45	45
Morgan City, LA	20792	Atchafalaya R Morgan Cty To Gulf	680	20	20	20
Muskegon, MI	77535	Ludington Harbor, MI	10270	27	27	27
	77523	Manistee Harbor, MI	10480	21	21	21

Appendix A-1
Port/Location Channel Depths

Port Name	Location Code	Location Name	CWI S	Channel Depth (feet)		
				2000	2010	2020
Muskegon, MI	77562	Muskegon Harbor, MI	12060	27	27	27
New Bedford, MA	748	Plymouth Harbor, MA	14200	15	15	15
New Haven, CT	1525	New London Harbor, CT	249	40	40	40
	704	Boston MA Island End River		35	35	35
New Orleans, LA	20132	Lower Miss River Mile 132	68	45	50	55
	20128	Lower Miss River Mile 128	68	45	50	55
	20138	Lower Miss River Mile 138	68	45	50	55
	20087	Lower Miss River Mile 87	68	45	50	55
	20139	Lower Miss River Mile 139	68	45	50	55
	20120	Lower Miss River Mile 120	68	45	50	55
	20127	Lower Miss River Mile 127	68	45	50	55
	20126	Lower Miss River Mile 126	68	45	50	55
	20125	Lower Miss River Mile 125	68	45	50	55
	20144	Lower Miss River Mile 144	68	45	50	55
	20118	Lower Miss River Mile 118	68	45	50	55
	20095	New Orleans, LA, Miles 88 Thru 106	68	45	50	55
	20053	Lower Miss River Mile 53	68	45	50	55
	20145	Lower Miss River Mile 145	68	45	50	55
	20083	Lower Miss River Mile 83	68	45	50	55
	20072	Lower Miss River Mile 72	68	45	50	55
	15800	Michoud Canal, LA	64	36	36	36
	20063	Lower Miss River Mile 63	68	45	50	55
	15973	Gulf Outlet Miles 70-73	11410	36	36	36
	20061	Lower Miss River Mile 61		45	50	55
	20002	Lower Miss River Mile 2	68	45	50	55
	20027	Lower Miss River Mile 27	68	45	50	55
	20057	Lower Miss River Mile 57	68	45	50	55
	20055	Lower Miss River Mile 55	68	45	50	55
	20108	Lower Miss River Mile 108	68	45	50	55
	20210	Lower Miss River Mile 210	68	45	50	55
	20158	Lower Miss River Mile 158	68	45	50	55
	20146	Lower Miss River Mile 146	68	45	50	55
	20500	Inner Harbor Navigation Canal, LA	11410	36	36	36
	20228	Baton Rouge, LA Miles 226 Thru 235	68	45	50	55
	20205	Lower Miss River Mile 205	68	45	50	55
	20203	Lower Miss River Mile 203	68	45	50	55
	20183	Lower Miss River Mile 183	68	45	50	55
	20173	Lower Miss River Mile 173	68	45	50	55
	20150	Lower Miss River Mile 150	68	45	50	55
	20452	Gulf Via Tiger, Pass		45	45	45
	20148	Lower Miss River Mile 148	68	45	50	55
	20169	Lower Miss River Mile 169	68	45	50	55
	20159	Lower Miss River Mile 159	68	45	50	55
	20161	Lower Miss River Mile 161	68	45	50	55
	20166	Lower Miss River Mile 166	68	45	50	55

Appendix A-1 Port/Location Channel Depths						
Port Name	Location Code	Location Name	CWI S	Channel Depth (feet)		
				2000	2010	2020
New Orleans, LA	20167	Lower Miss River Mile 167	68	45	50	55
	20168	Lower Miss River Mile 168	68	45	50	55
New York, NY	2861	Newark Bay NJ Port Newark Branch Channel	12550	40	50	50
	2710	Upper Bay, NY Narrows To/Municipal Ferry Dock St Geo Si	12490	45	50	50
	3837	Asharoken, L I		49	49	49
	3046	Clinton Point, NY	7810	32	32	32
	2910	Hudson River, NY & NJ Yonkers NY	7810	32	32	32
	2901	Hudson River Channel, NY & NJ/NY Shore W 40 To W 59 St, NY	7800	45	45	45
	2870	Hackensack River NJ/upper End Of Newark Bay Channel		49	49	49
	2864	Newark Bay NJ Offshore Connecting Channel	12550	40	50	50
	2863	Newark Bay NJ-port Elizabeth Branch Channel	12550	40	50	50
	3844	Northville L.I., NY		54	54	54
	2470	Bay Ridge Channel, NY	1040	40	40	40
	2210	East River NY Upper NY Bay To USN Shipyard	41062	40	40	40
	2213	East River, NY/USN Shipyd, Excluding East Channel	41062	35	35	35
	2811	Raritan River NJ Main Channel/raritan Bay To Ostrandrs Dock/Keasby NJ	14860	25	25	25
	2410	Buttermilk Channel, NY	41015	40	40	40
	2825	New York & New Jersey Channels/Housman Avenue To St George S I	12550	40	50	50
	2715	Upper Bay, NY/bayonne NJ To Claremont NJ/bay Ridge Flats And Bedloes Is	12490	45	50	50
	2821	New York & New Jersey Channels Main Ship Chan To Smith Creek NJ	12520	35	35	35
	2822	New York & New Jersey Channels Smith Creek To Piles Creek NJ	12520	35	35	35
	2823	New York & New Jersey Channels Piles Creek/to Kill Van Kull	12520	35	41	50
Newport News, VA	10270	York River, VA	73803	22	22	22
Norfolk, VA	10383	Norfolk Hbr, VA Southern Br Eliz R	12801	50 / 45	50	55
	10387	Norfolk Harbor, VA Portsmouth VA	12801	50 / 45	50	55
	10343	Newport News , VA	73783	50 / 45	50	55
	10350	James River, VA	8430	35	35	35
	10385	Norfolk Hbr, VA Eastern Br Eliz R	12801	50 / 45	50	55
	5559	Chesapeake Bay Open Waters		50	50	50
Ogdensburg, NY	70245	Ogdensburg Harbor, NY	13130	27	27	27
Oswego, NY	71184	Oswego Harbor, NY	13440	24	24	24
Panama City, FL	15230	Panama City Harbor, FL	13640	32	32	32

Appendix A-1 Port/Location Channel Depths						
Port Name	Location Code	Location Name	CWI S	Channel Depth (feet)		
				2000	2010	2020
Pascagoula, MS	15555	Pascagoula Hbr, MS	13680	38	42	42
Pennsauken	4345	Petty Island NJ	4570	40	45	45
Pensacola, FL	15405	Pensacola Hbr, FL	13830	33	33	33
Philadelphia, PA	4350	Delair, NJ	4550	40	40	40
	4680	Schuylkill River Phila, PA Project	16550	33	33	33
	4495	Morrisville, PA	4550	12	12	12
	4490	Tullytown, PA	4550	40	40	40
	4470	Philadelphia, PA On Delaware River/Allegheny Ave To Poquessing Creek	4550	40	40	40
	4460	Thru 04470 Philadelphia, PA On Delaware Rv/Hog Island To Allegheny Ave	4570	40	45	45
	4453	Eddystone, PA	4570	40	45	45
	4415	Delaware City, DE	4570	40	45	45
	4370	Burlington, NJ	4550	40	40	40
	4340	Gloucester, NJ	4570	40	45	45
	4335	Eagle Point Westville, NJ	4570	40	45	45
	4330	Paulsboro, NJ	4570	40	45	45
	4402	Lower Delaware Bay, DE	4570	40	45	45
	4343	Camden, NJ	43005	40	45	45
Ponce, PR	17610	Guayanilla Hbr, PR		39	39	39
	17540	Jobos Hbr, PR		26	26	26
	17590	Ponce Harbor, PR	75007	36	36	36
Port Angeles, WA	91284	Anacortes Harbor, WA	67300	18	18	18
	91097	Port Angeles Harbor, WA		45	45	45
Port Arthur, TX	60020	Sabine, Pass Harbor, TX	15780	40	45	45
	60056	Beaumont, TX	15780	40	40	40
	66288	Port Arthur, TX	15780	40	40	40
Port Everglades, FL	14312	Dania Cut Off Canal, FL		18	18	18
	16180	Icw Port Everglades Harbor, Fl Miles 175 Thru 183		42	42	42
	14467	Key West Hbr, FL	8970	30	30	30
Port Hueneme, CA	80355	Port Hueneme, CA	74656	35	35	35
Port Huron, MI	75020	Port Huron, MI	17300	27	27	27
	75017	Marysville, MI	17300	27	27	27
Portland, ME	75010	Marine City, MI	17300	27	27	27
	545	Portland Harbor, ME	367	30	30	30
	546	Portland Harbor, Fore River, ME	367	35	35	35
Portland, OR	90102	Oregon Slough Oregon And Bay, OR	66005	40	40	40
	90075	Kalama, WA	3630	40	43	43
	90066	Longview, WA	3630	40	43	43
	90064	Longview (Mt. Coffin)	3630	40	43	43
	90015	Astoria, OR	3630	40	43	43
Portsmouth, NH	600	Portsmouth Hbr, NH	512	35	35	35

Appendix A-1 Port/Location Channel Depths						
Port Name	Location Code	Location Name	CWIS	Channel Depth (feet)		
				2000	2010	2020
Portsmouth, NH	610	Piscataqua River, NH	512	35	35	35
Presque Isle, MI	77433	Charlevoix Michigan Ironston, MI	2990	18	18	18
Providence, RI	1379	Providence River and Harbor, RI	566	40	40	40
	1408	Davisville, RI		25	25	25
Redwood City, CA	82238	Redwood City Hbr, CA	15100	30	30	30
Richmond-Petersburg, VA	10352	James River & Port of Hopewell, VA	8430	35	35	35
	5559	Chesapeake Bay Open Waters		25	25	25
Sacramento, CA	81050	Suisun Bay Channel, CA	17720	40	40	40
Saginaw-Bay Cty-Flint MI	76077	Saginaw, MI	57420	22	22	22
	76069	Essexville, MI	57420	25	25	25
	76070	Bangor Township, MI		26	26	26
Salem, MA	675	Salem Harbor, MA	439	32	32	32
San Diego, CA	80020	San Diego Harbor, CA	16110	40	40	40
San Francisco, CA	82310	San Pablo Bay & Mare I Strait, CA	16230	45	45	45
	82323	Carquinez Strait, CA	16230	45	45	45
	82280	Oakland Harbor, CA Codes 000-380, 400-835, & 840-999	12990	42	50	50
	82202	San Francisco Hbr, CA	16130	40	40	40
	82300	Richmond Harbor, CA Codes 000-699	15280	45	50	50
San Juan, PR	17130	San Juan Hbr, PR	16190	40	40	40
Sault Ste. Marie, MI	77934	Port Inland, MI		29	29	29
	79077	Presque Isle Harbor, MI	48012	27	27	27
	76202	Port Dolomite, MI		25	25	25
	78024	Sault Ste Marie, MI		25	25	25
	76188	St Ignace, MI		48	48	48
Savannah, GA	13040	Savannah Harbor, GA	75085	42	48	48
Searsport, ME	330	Penobscot River, ME	13820	22	22	22
	332	Searsport Hbr, Me	377	35	35	35
Seattle, WA	91209	Seattle Harbor, WA Duwamish River	67318	30	30	30
	91210	Seattle Harbor, WA West Waterway	67318	34	34	34
	91211	Seattle Harbor, WA Harbor Island	67318	34	34	34
	91212	Seattle Harbor, WA East Waterway	67318	34	51	51
	91213	Seattle Harbor, WA Elliott Bay	67318	34	34	34
	91215	Seattle Harbor, WA/Richmond Beach To Edmonds		40	40	40
	91188	Tacoma Harbor, WA	72902	35	51	51
	91428	Steilacoom, WA		50	50	50
Stockton, CA	81401	Pittsburg, CA	16180	35	35	35
	81442	Stockton, CA	16180	35	35	35
	81726	Yolo Port District, CA	15870	35	35	35
Tacoma, WA	91290	Bellingham Bay & Harbor, WA/Whatcom Creek Waterway	1310	30	30	30
	91282	Anacortes Harbor, WA		44	44	44
	91560	Ferndale, WA		53	53	53
	91217	Lake Washington Ship Canal, WA/Ballard	9400	30	30	30
	91183	Tacoma Harbor, WA Middle Waterway		40	40	40

Appendix A-1 Port/Location Channel Depths						
Port Name	Location Code	Location Name	CWIS	Channel Depth (feet)		
				2000	2010	2020
Tacoma, WA	91178	Olympia Harbor, WA	13320	30	30	30
	91187	Tacoma Harbor, WA		40	40	40
	91181	Tacoma Harbor, WA		65	65	65
	91189	Tacoma Harbor, WA	72902	30	30	30
Tampa, FL	14795	Port Manatee, FL	10166	40	40	40
	14150	Canaveral Harbor, FL	2520	40	40	40
	14790	Tampa Harbor, FL	17960	43	43	43
Texas City, TX	66351	Thru 66540 Giww Galveston To Corpus Christi		50	50	50
Toledo-Sandusky, OH	72060	Lorain Harbor, OH	10060	28	28	28
	72046	Sandusky Harbor, OH	16260	26	26	26
	72044	Marblehead, OH		28	28	28
	72051	Huron Harbor, OH	7920	28	28	28
Valdez, AK	95130	Valdez, AK		108	108	108
West Palm Beach, FL	14266	Palm Beach Harbor, FL	13590	33	33	33
	16229	Icw, Palm Beach Harbor, Fl Miles 223 Thru 230		33	33	33
Wilmington, DE	4550	Salem River, NJ	24950	18	18	18
	4430	Claymont, DE	4570	40	45	45
Wilmington, NC	11830	Wilmington Harbor, Southport NC	20030	38	42	42
	11832	Wilmington Harbor, NC	20030	38	42	42
	11834	Northeast, Cape Fear River NC		38	38	38

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APPENDIX B

Appendix B-1
Analysis of Port Level Constraints, Year 2000

Port Name/Location Name	Relative Call Rank	Number of calls	Constrained Calls with Projects	Constrained Calls without Projects	Percent of Total Constrained Calls with Projects	Percent of Total Constrained Calls without Projects	Relative Tonnage Rank	Number of tons	Constrained tons with projects	Constrained tons without projects	Percent of Total Constrained Tons with Projects	Percent of Total Constrained Tons without Projects
Adak Island, AK (coast)	276	4	0	0	0.00%	0.00%	289	1,389	0	0	0.00%	0.00%
Afognak Island, AK	240	18	0	0	0.00%	0.00%	240	86,507	0	0	0.00%	0.00%
Alabaster, MI	212	32	32	32	0.08%	0.08%	210	213,581	213,580	213,580	0.03%	0.03%
Albany, NY	154	90	48	48	0.12%	0.12%	168	505,233	408,547	408,547	0.06%	0.06%
Alpena, MI	228	22	4	4	0.01%	0.01%	237	100,725	23,114	23,114	0.00%	0.00%
Anacortes Harbor, WA	81	306	60	60	0.14%	0.14%	102	1,882,289	972,804	972,804	0.14%	0.14%
Anchorage, AK	213	32	4	4	0.01%	0.01%	189	324,348	6,854	6,854	0.00%	0.00%
Arecibo Harbor, PR	260	8	0	0	0.00%	0.00%	280	5,616	0	0	0.00%	0.00%
Asharoken, L I	261	8	0	0	0.00%	0.00%	222	157,922	0	0	0.00%	0.00%
Ashtabula Harbor, OH	100	220	212	212	0.51%	0.51%	53	3,760,410	3,671,958	3,671,958	0.54%	0.54%
Astoria, OR	198	38	16	16	0.04%	0.04%	176	446,580	283,865	283,865	0.04%	0.04%
Atchafalaya R Morgan Cty To Gulf	269	6	4	4	0.01%	0.01%	281	5,352	5,112	5,112	0.00%	0.00%
Baltimore Hbr and Channels, MD	9	2,934	92	92	0.22%	0.22%	12	22,197,498	3,564,852	3,564,852	0.52%	0.52%
Bangor Township, MI	290	2	2	2	0.00%	0.00%	286	2,895	2,895	2,895	0.00%	0.00%
Barbers Point Channel Oahu	135	116	76	76	0.18%	0.18%	59	3,335,852	2,893,611	2,893,611	0.42%	0.42%
Baton Rouge, LA Miles 226 Thru 235	57	500	194	194	0.47%	0.47%	30	8,934,331	6,107,968	6,107,968	0.89%	0.89%
Bay Ridge Channel, NY	262	8	6	6	0.01%	0.01%	274	10,506	8,251	8,251	0.00%	0.00%
Bayou Casotte, MS	46	676	548	548	1.32%	1.32%	15	16,227,601	15,881,410	15,881,410	2.32%	2.32%
Bayou La Batre, AL	229	22	22	22	0.05%	0.05%	295	776	775	775	0.00%	0.00%
Beaumont, TX	15	2,198	1,726	1,726	4.15%	4.15%	2	66,120,839	62,670,076	62,670,076	9.14%	9.14%
Bellingham Bay & Harbor, WA Main Channel	277	4	0	0	0.00%	0.00%	285	3,086	0	0	0.00%	0.00%
Bellingham Bay & Harbor, WA/Squalicum Creek Waterway	291	2	0	0	0.00%	0.00%	298	236	0	0	0.00%	0.00%
Bellingham Bay & Harbor, WA/Whatcom Creek Waterway	142	106	50	50	0.12%	0.12%	213	183,067	88,596	88,596	0.01%	0.01%
Biloxi Harbor, MS	292	2	0	0	0.00%	0.00%	291	1,049	0	0	0.00%	0.00%
Boston MA Island End Rvr	107	200	42	42	0.10%	0.10%	108	1,683,402	504,941	504,941	0.07%	0.07%

Appendix B-1
Analysis of Port Level Constraints, Year 2000

Port Name/Location Name	Relative Call Rank	Number of calls	Constrained Calls with Projects	Constrained Calls without Projects	Percent of Total Constrained Calls with Projects	Percent of Total Constrained Calls without Projects	Relative Tonnage Rank	Number of tons	Constrained tons with projects	Constrained tons without projects	Percent of Total Constrained Tons with Projects	Percent of Total Constrained Tons without Projects
Boston MA Town River	230	22	20	20	0.05%	0.05%	256	53,871	50,798	50,798	0.01%	0.01%
Boston, MA Chelsea River	77	322	200	200	0.48%	0.48%	58	3,351,323	2,266,443	2,266,443	0.33%	0.33%
Boston, MA Main Water Front	65	432	152	152	0.37%	0.37%	112	1,450,694	474,520	474,520	0.07%	0.07%
Boston, MA Mystic River	74	348	86	86	0.21%	0.21%	78	2,578,322	1,798,908	1,798,908	0.26%	0.26%
Boston, MA Weymouth Fore River	241	18	16	16	0.04%	0.04%	223	153,602	150,926	150,926	0.02%	0.02%
Bridgeport, CT Main Harbor	128	132	36	36	0.09%	0.09%	159	632,151	419,540	419,540	0.06%	0.06%
Brownsville Ship Channel, TX	73	352	146	146	0.35%	0.35%	109	1,617,223	1,054,581	1,054,581	0.15%	0.15%
Brunswick Hbr, GA	42	802	700	700	1.68%	1.68%	91	2,059,713	1,822,623	1,822,623	0.27%	0.27%
Buffalo Harbor, NY	183	48	26	26	0.06%	0.06%	198	278,944	215,952	215,952	0.03%	0.03%
Burlington, NJ	224	24	6	6	0.01%	0.01%	191	313,385	77,942	77,942	0.01%	0.01%
Burns Waterway Harbor, IN	102	214	196	196	0.47%	0.47%	98	1,899,950	1,876,293	1,876,293	0.27%	0.27%
Buttermilk Channel, NY	55	544	258	258	0.62%	0.62%	87	2,252,278	1,287,978	1,287,978	0.19%	0.19%
Calcasieu River and Pass Lake Charles, LA	98	230	132	132	0.32%	0.32%	41	5,096,307	4,686,895	4,686,895	0.68%	0.68%
Calcite, MI	131	124	122	122	0.29%	0.29%	126	1,197,107	1,196,067	1,196,067	0.17%	0.17%
Camden, NJ	58	488	48	48	0.12%	0.12%	116	1,344,355	327,559	327,559	0.05%	0.05%
Canaveral Harbor, FL	32	934	74	74	0.18%	0.18%	79	2,548,230	760,147	760,147	0.11%	0.11%
Carquinez Strait, CA	87	284	70	70	0.17%	0.17%	60	3,255,518	1,578,969	1,578,969	0.23%	0.23%
Catskill, NY	278	4	4	4	0.01%	0.01%	257	47,048	47,048	47,048	0.01%	0.01%
Cementon, NY	208	34	30	30	0.07%	0.07%	182	401,262	393,177	393,177	0.06%	0.06%
Charleston Ashley River, SC	256	10	6	6	0.01%	0.01%	226	139,361	112,974	112,974	0.02%	0.02%
Charleston Cooper River, SC	19	1,926	872	872	2.10%	2.10%	34	7,173,774	4,554,716	4,554,716	0.66%	0.66%
Charleston Shipyard River, SC	263	8	2	2	0.00%	0.00%	252	58,079	26,000	26,000	0.00%	0.00%
Charlevoix Michigan Ironton, MI	237	20	4	4	0.01%	0.01%	244	82,592	18,726	18,726	0.00%	0.00%
Chesapeake Bay Open Waters	191	42	8	8	0.02%	0.02%	145	785,394	332,361	332,361	0.05%	0.05%
Chester, PA	219	30	22	22	0.05%	0.05%	138	908,509	857,519	857,519	0.13%	0.13%

Appendix B-1
Analysis of Port Level Constraints, Year 2000

Port Name/Location Name	Relative Call Rank	Number of calls	Constrained Calls with Projects	Constrained Calls without Projects	Percent of Total Constrained Calls with Projects	Percent of Total Constrained Calls without Projects	Relative Tonnage Rank	Number of tons	Constrained tons with projects	Constrained tons without projects	Percent of Total Constrained Tons with Projects	Percent of Total Constrained Tons without Projects
Christina River Wilmington De	39	836	236	236	0.57%	0.57%	54	3,701,039	2,142,691	2,142,691	0.31%	0.31%
Claymont, DE	202	36	2	2	0.00%	0.00%	188	330,211	61,200	61,200	0.01%	0.01%
Cleveland Harbor, OH	62	454	328	328	0.79%	0.79%	88	2,226,509	1,776,050	1,776,050	0.26%	0.26%
Clinton Point, NY	293	2	2	2	0.00%	0.00%	277	7,872	7,872	7,872	0.00%	0.00%
Coeymans, NY	221	28	2	2	0.00%	0.00%	214	179,243	11,028	11,028	0.00%	0.00%
Conneaut Harbor, OH	75	328	278	278	0.67%	0.67%	51	3,966,656	3,831,653	3,831,653	0.56%	0.56%
Cooper River Above Charleston Hbr	231	22	0	0	0.00%	0.00%	208	223,880	0	0	0.00%	0.00%
Coos Bay, OR Inside Channel To/Millington, OR	116	156	138	138	0.33%	0.33%	113	1,373,185	1,321,037	1,321,037	0.19%	0.19%
Corpus Christi, TX	14	2,228	1,138	1,138	2.74%	2.74%	3	52,835,580	39,080,222	39,080,222	5.70%	5.70%
Dania Cut Off Canal, FL	28	1,084	124	124	0.30%	0.30%	243	83,409	13,811	13,811	0.00%	0.00%
Davisville, RI	199	38	36	36	0.09%	0.09%	253	55,946	55,449	55,449	0.01%	0.01%
Dearborn MI See Rouge Riv/Rouge River MI Dearborn MI	99	230	138	138	0.33%	0.33%	104	1,846,236	1,445,858	1,445,858	0.21%	0.21%
Delair, NJ	192	42	34	34	0.08%	0.08%	164	570,450	492,891	492,891	0.07%	0.07%
Delaware City, DE	152	94	78	78	0.19%	0.19%	66	3,027,820	2,941,480	2,941,480	0.43%	0.43%
Detroit, MI	70	380	274	274	0.66%	0.66%	85	2,285,201	2,025,048	2,025,048	0.30%	0.30%
Duluth, MN	96	248	200	200	0.48%	0.48%	61	3,205,681	2,936,862	2,936,862	0.43%	0.43%
Eagle Point Westville, NJ	114	160	112	112	0.27%	0.27%	36	6,585,154	6,351,316	6,351,316	0.93%	0.93%
East Pearl River, MS	132	124	6	6	0.01%	0.01%	249	62,851	2,946	2,946	0.00%	0.00%
East River NY Upper NY Bay To USN Shipyard	140	110	50	50	0.12%	0.12%	125	1,200,599	672,267	672,267	0.10%	0.10%
East River, NY/USN Shipyd, Excluding East Channel	155	90	28	28	0.07%	0.07%	149	728,973	322,917	322,917	0.05%	0.05%
Eastport Hbr, ME	38	848	26	26	0.06%	0.06%	194	305,372	166,545	166,545	0.02%	0.02%
Ecorse, MI	145	98	74	74	0.18%	0.18%	174	462,465	443,725	443,725	0.06%	0.06%
Eddystone, PA	106	202	4	4	0.01%	0.01%	144	803,489	73,275	73,275	0.01%	0.01%
El Segundo, CA	101	218	118	118	0.28%	0.28%	38	6,440,614	4,684,127	4,684,127	0.68%	0.68%
Erie Harbor, PA	264	8	8	8	0.02%	0.02%	227	137,691	137,691	137,691	0.02%	0.02%

Appendix B-1
Analysis of Port Level Constraints, Year 2000

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Essexville, MI	184	48	6	6	0.01%	0.01%	172	475,570	65,513	65,513	0.01%	0.01%
Everett Harbor, WA Outer Harbor	90	266	60	60	0.14%	0.14%	153	651,615	405,088	405,088	0.06%	0.06%
Fajardo Hbr, PR	136	116	62	62	0.15%	0.15%	115	1,351,625	1,327,371	1,327,371	0.19%	0.19%
Fall River Hbr, MA	166	72	30	30	0.07%	0.07%	157	638,068	462,959	462,959	0.07%	0.07%
False, Pass, AK (coast)	294	2	0	0	0.00%	0.00%	297	331	0	0	0.00%	0.00%
Fernandina, FL	51	588	36	36	0.09%	0.09%	178	440,896	53,893	53,893	0.01%	0.01%
Ferndale, WA	89	268	6	6	0.01%	0.01%	117	1,339,617	93,429	93,429	0.01%	0.01%
Fort Pierce Hbr, FL	130	128	12	12	0.03%	0.03%	259	41,558	10,756	10,756	0.00%	0.00%
Freeport Harbor, TX	25	1,386	512	512	1.23%	1.23%	11	22,340,590	18,656,324	18,656,324	2.72%	2.72%
Galveston Channel, TX	50	592	180	180	0.43%	0.43%	42	5,037,509	3,412,116	3,412,116	0.50%	0.50%
Gary, IN	250	14	12	12	0.03%	0.03%	203	249,366	236,420	236,420	0.03%	0.03%
Gloucester, NJ	63	444	24	24	0.06%	0.06%	165	568,682	59,373	59,373	0.01%	0.01%
Grand Haven Harbor, MI	181	50	50	50	0.12%	0.12%	179	439,338	439,338	439,338	0.06%	0.06%
Grays Harbor, & Chehalis River Wa/North Aberdeen And North Channel	214	32	26	26	0.06%	0.06%	255	54,398	41,046	41,046	0.01%	0.01%
Grays Hbr & Chehalis River, WA South Aberdeen	148	96	66	66	0.16%	0.16%	167	511,049	411,630	411,630	0.06%	0.06%
Grays Hbr & Chehalis River, WA Westhaven	270	6	0	0	0.00%	0.00%	300	124	0	0	0.00%	0.00%
Green Bay, WI	295	2	2	2	0.00%	0.00%	268	20,074	20,074	20,074	0.00%	0.00%
Guanica Hbr, PR	225	24	22	22	0.05%	0.05%	229	129,256	127,686	127,686	0.02%	0.02%
Guayanilla Hbr, PR	78	322	172	172	0.41%	0.41%	57	3,355,344	2,752,546	2,752,546	0.40%	0.40%
Gulf Outlet Miles 70-73	158	86	36	36	0.09%	0.09%	129	1,120,101	761,993	761,993	0.11%	0.11%
Gulf Via Tiger, Pass	279	4	0	0	0.00%	0.00%	302	4	0	0	0.00%	0.00%
Gulfport Hbr & Ship Is Pass, MS	34	916	126	126	0.30%	0.30%	105	1,839,269	280,657	280,657	0.04%	0.04%
Hackensack River NJ/upper End Of Newark Bay Channel/to Koppers Co Bulkhead Kearny NJ	271	6	0	0	0.00%	0.00%	258	44,518	0	0	0.00%	0.00%
Homer, AK	194	40	22	22	0.05%	0.05%	212	190,809	84,747	84,747	0.01%	0.01%

Appendix B-1
Analysis of Port Level Constraints, Year 2000

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Honolulu Hbr, Oahu, HI	48	646	68	68	0.16%	0.16%	48	4,372,999	2,891,199	2,891,199	0.42%	0.42%
Hoonah, AK	296	2	2	2	0.00%	0.00%	293	1,030	1,030	1,030	0.00%	0.00%
Houston Ship Channel, TX	1	9,344	3,510	3,510	8.44%	8.44%	1	120,479,674	90,067,462	90,067,462	13.13%	13.13%
Hudson River Channel, NY & NJ/NY Shore W 40 To W 59 St, NY	254	12	2	2	0.00%	0.00%	279	7,399	1,692	1,692	0.00%	0.00%
Hudson River, NY & NJ Yonkers NY	244	16	2	2	0.00%	0.00%	238	99,453	22,463	22,463	0.00%	0.00%
Humboldt Harbor, AK (coast)	297	2	2	2	0.00%	0.00%	288	1,563	1,563	1,563	0.00%	0.00%
Humboldt Hbr & Bay, CA	144	102	70	70	0.17%	0.17%	185	361,188	317,431	317,431	0.05%	0.05%
Huron Harbor, OH	265	8	8	8	0.02%	0.02%	246	78,432	78,432	78,432	0.01%	0.01%
Icw Port Everglades Harbor, Fl Miles 175 Thru 183	245	16	0	0	0.00%	0.00%	301	32	0	0	0.00%	0.00%
Icw, PALm Beach Harbor, Fl Miles 223 Thru 230	280	4	0	0	0.00%	0.00%	294	778	0	0	0.00%	0.00%
Icy Bay, AK	220	30	0	0	0.00%	0.00%	219	166,509	0	0	0.00%	0.00%
Indiana Harbor Indiana East Chicago, IN	173	60	48	48	0.12%	0.12%	161	615,428	583,802	583,802	0.09%	0.09%
Inner Harbor Navigation Canal, LA	43	748	398	398	0.96%	0.96%	86	2,274,321	1,384,569	1,384,569	0.20%	0.20%
Jacksonville Harbor, FL	12	2,680	566	566	1.36%	1.36%	31	8,621,928	5,489,770	5,489,770	0.80%	0.80%
James River & Port of Hopewell, VA	179	52	16	16	0.04%	0.04%	206	238,042	139,619	139,619	0.02%	0.02%
James River, VA	113	172	56	56	0.13%	0.13%	152	658,201	245,131	245,131	0.04%	0.04%
Jobos Hbr, PR	129	130	112	112	0.27%	0.27%	120	1,290,817	1,244,798	1,244,798	0.18%	0.18%
Juneau Gastineau Channel, AK	153	92	4	4	0.01%	0.01%	245	78,749	6,190	6,190	0.00%	0.00%
Kalama, WA	86	290	182	182	0.44%	0.44%	50	4,213,693	3,307,206	3,307,206	0.48%	0.48%
Ketchikan, AK (Tongass Narrows)	251	14	10	10	0.02%	0.02%	239	99,452	85,117	85,117	0.01%	0.01%
Key West Hbr, FL	281	4	0	0	0.00%	0.00%	299	142	0	0	0.00%	0.00%
Kivilina, AK (coast)	176	56	0	0	0.00%	0.00%	128	1,149,564	0	0	0.00%	0.00%

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Kodiak Island, AK (coast)	272	6	0	0	0.00%	0.00%	284	3,860	0	0	0.00%	0.00%
Lake Calumet, IL	215	32	20	20	0.05%	0.05%	231	121,894	88,808	88,808	0.01%	0.01%
Lake Washington Ship Canal, WA/Ballard	298	2	2	2	0.00%	0.00%	278	7,506	7,506	7,506	0.00%	0.00%
Little Sandy River, OR	282	4	2	2	0.00%	0.00%	283	4,150	2,100	2,100	0.00%	0.00%
Long Beach Harbor, CA	13	2,546	90	90	0.22%	0.22%	6	31,116,689	4,508,772	4,508,772	0.66%	0.66%
Long Beach Outer Harbor, CA	16	2,156	0	0	0.00%	0.00%	14	16,738,708	0	0	0.00%	0.00%
Longview (Mt. Coffin)	164	76	58	58	0.14%	0.14%	131	1,052,330	876,744	876,744	0.13%	0.13%
Longview, WA	68	398	116	116	0.28%	0.28%	70	2,874,564	1,164,596	1,164,596	0.17%	0.17%
Lorain Harbor, OH	216	32	30	30	0.07%	0.07%	204	249,082	231,767	231,767	0.03%	0.03%
Los Angeles Harbor, CA	4	4,436	0	0	0.00%	0.00%	4	37,907,435	0	0	0.00%	0.00%
Lower Delaware Bay, DE	91	264	246	246	0.59%	0.59%	23	11,923,559	11,661,076	11,661,076	1.70%	1.70%
Lower Miss River Mile 108	137	116	20	20	0.05%	0.05%	134	1,025,562	599,542	599,542	0.09%	0.09%
Lower Miss River Mile 116	257	10	2	2	0.00%	0.00%	235	107,096	76,118	76,118	0.01%	0.01%
Lower Miss River Mile 118	94	254	60	60	0.14%	0.14%	69	2,886,604	1,519,821	1,519,821	0.22%	0.22%
Lower Miss River Mile 120	45	734	226	226	0.54%	0.54%	20	12,703,012	5,988,358	5,988,358	0.87%	0.87%
Lower Miss River Mile 125	203	36	16	16	0.04%	0.04%	137	922,572	645,522	645,522	0.09%	0.09%
Lower Miss River Mile 126	200	38	6	6	0.01%	0.01%	151	697,157	162,747	162,747	0.02%	0.02%
Lower Miss River Mile 127	209	34	2	2	0.00%	0.00%	199	274,151	33,641	33,641	0.00%	0.00%
Lower Miss River Mile 128	134	122	40	40	0.10%	0.10%	106	1,794,391	1,089,423	1,089,423	0.16%	0.16%
Lower Miss River Mile 132	193	42	2	2	0.00%	0.00%	254	55,754	1,912	1,912	0.00%	0.00%
Lower Miss River Mile 138	185	48	20	20	0.05%	0.05%	132	1,046,163	639,532	639,532	0.09%	0.09%
Lower Miss River Mile 139	49	598	178	178	0.43%	0.43%	26	10,154,471	5,149,728	5,149,728	0.75%	0.75%
Lower Miss River Mile 140	160	82	76	76	0.18%	0.18%	82	2,322,541	2,222,499	2,222,499	0.32%	0.32%
Lower Miss River Mile 144	169	68	10	10	0.02%	0.02%	146	785,370	158,275	158,275	0.02%	0.02%
Lower Miss River Mile 145	188	44	24	24	0.06%	0.06%	143	808,570	595,126	595,126	0.09%	0.09%
Lower Miss River Mile 146	222	26	0	0	0.00%	0.00%	234	108,379	0	0	0.00%	0.00%
Lower Miss River Mile 148	165	76	62	62	0.15%	0.15%	80	2,539,817	2,291,301	2,291,301	0.33%	0.33%
Lower Miss River Mile 150	138	112	14	14	0.03%	0.03%	119	1,333,840	397,397	397,397	0.06%	0.06%
Lower Miss River Mile 158	95	252	14	14	0.03%	0.03%	100	1,888,042	244,196	244,196	0.04%	0.04%

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Lower Miss River Mile 159	120	144	122	122	0.29%	0.29%	44	4,717,397	4,411,962	4,411,962	0.64%	0.64%
Lower Miss River Mile 160	232	22	20	20	0.05%	0.05%	150	728,223	700,292	700,292	0.10%	0.10%
Lower Miss River Mile 161	226	24	0	0	0.00%	0.00%	217	173,491	0	0	0.00%	0.00%
Lower Miss River Mile 166	117	154	24	24	0.06%	0.06%	97	1,920,071	854,808	854,808	0.12%	0.12%
Lower Miss River Mile 167	133	124	16	16	0.04%	0.04%	114	1,364,247	365,108	365,108	0.05%	0.05%
Lower Miss River Mile 168	189	44	36	36	0.09%	0.09%	111	1,451,607	1,321,725	1,321,725	0.19%	0.19%
Lower Miss River Mile 169	124	136	36	36	0.09%	0.09%	93	2,027,783	1,068,533	1,068,533	0.16%	0.16%
Lower Miss River Mile 173	246	16	0	0	0.00%	0.00%	216	176,347	0	0	0.00%	0.00%
Lower Miss River Mile 183	162	80	0	0	0.00%	0.00%	205	243,071	0	0	0.00%	0.00%
Lower Miss River Mile 187	238	20	6	6	0.01%	0.01%	201	260,216	134,668	134,668	0.02%	0.02%
Lower Miss River Mile 2	252	14	2	2	0.00%	0.00%	215	177,423	48,653	48,653	0.01%	0.01%
Lower Miss River Mile 200	283	4	0	0	0.00%	0.00%	282	5,189	0	0	0.00%	0.00%
Lower Miss River Mile 203	210	34	2	2	0.00%	0.00%	192	306,358	48,331	48,331	0.01%	0.01%
Lower Miss River Mile 205	149	96	0	0	0.00%	0.00%	186	352,902	0	0	0.00%	0.00%
Lower Miss River Mile 210	163	78	4	4	0.01%	0.01%	156	639,296	115,309	115,309	0.02%	0.02%
Lower Miss River Mile 27	159	86	86	86	0.21%	0.21%	64	3,134,272	3,134,272	3,134,272	0.46%	0.46%
Lower Miss River Mile 53	204	36	10	10	0.02%	0.02%	160	620,556	261,908	261,908	0.04%	0.04%
Lower Miss River Mile 55	118	152	56	56	0.13%	0.13%	65	3,088,204	1,883,654	1,883,654	0.27%	0.27%
Lower Miss River Mile 57	141	110	36	36	0.09%	0.09%	83	2,310,651	1,254,447	1,254,447	0.18%	0.18%
Lower Miss River Mile 61	92	262	92	92	0.22%	0.22%	49	4,359,786	2,540,745	2,540,745	0.37%	0.37%
Lower Miss River Mile 63	253	14	10	10	0.02%	0.02%	184	374,254	334,371	334,371	0.05%	0.05%
Lower Miss River Mile 72	105	204	84	84	0.20%	0.20%	55	3,537,823	2,562,281	2,562,281	0.37%	0.37%
Lower Miss River Mile 83	112	178	40	40	0.10%	0.10%	89	2,210,266	1,055,624	1,055,624	0.15%	0.15%
Lower Miss River Mile 87	167	72	54	54	0.13%	0.13%	92	2,056,250	1,867,595	1,867,595	0.27%	0.27%
Ludington Harbor, MI	205	36	20	20	0.05%	0.05%	218	170,452	109,141	109,141	0.02%	0.02%
Manistee Harbor, MI	284	4	0	0	0.00%	0.00%	269	18,000	0	0	0.00%	0.00%
Marblehead, OH	177	56	56	56	0.13%	0.13%	180	434,063	434,062	434,062	0.06%	0.06%
Marcus Hook, PA	71	372	278	278	0.67%	0.67%	22	12,109,304	11,438,640	11,438,640	1.67%	1.67%
Marine City, MI	255	12	12	12	0.03%	0.03%	233	111,834	111,834	111,834	0.02%	0.02%
Marysville, MI	170	68	54	54	0.13%	0.13%	173	474,110	454,536	454,536	0.07%	0.07%
Matagorda Ship Chnl, TX	53	550	380	380	0.91%	0.91%	37	6,508,310	5,560,273	5,560,273	0.81%	0.81%

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Mayaguez Hbr, PR	69	382	18	18	0.04%	0.04%	195	293,536	73,101	73,101	0.01%	0.01%
Miami Harbor, FL	2	4,918	478	478	1.15%	1.15%	40	5,886,947	1,468,802	1,468,802	0.21%	0.21%
Miami River, FL	17	2,060	896	896	2.15%	2.15%	155	643,080	453,299	453,299	0.07%	0.07%
Michoud Canal, LA	150	96	48	48	0.12%	0.12%	127	1,197,060	912,169	912,169	0.13%	0.13%
Milwaukee, WI	111	182	160	160	0.38%	0.38%	130	1,090,376	1,042,624	1,042,624	0.15%	0.15%
Mobile Harbor AL	40	810	208	208	0.50%	0.50%	24	10,559,056	6,799,196	6,799,196	0.99%	0.99%
Mobile Harbor, AL Chickasaw Creek	233	22	0	0	0.00%	0.00%	267	24,937	0	0	0.00%	0.00%
Monroe Harbor, MI	195	40	24	24	0.06%	0.06%	200	267,911	229,301	229,301	0.03%	0.03%
Morehead City Hbr, NC	93	260	20	20	0.05%	0.05%	77	2,607,651	522,860	522,860	0.08%	0.08%
Morrisville, PA	103	212	208	208	0.50%	0.50%	75	2,718,362	2,708,178	2,708,178	0.39%	0.39%
Muskegon Harbor, MI	168	70	58	58	0.14%	0.14%	183	398,770	352,907	352,907	0.05%	0.05%
New Bedford & Fairhaven Hbr, MA	178	54	8	8	0.02%	0.02%	241	85,673	74,497	74,497	0.01%	0.01%
New Haven, CT Main Harbor	115	160	114	114	0.27%	0.27%	136	962,029	783,612	783,612	0.11%	0.11%
New London Harbor, CT	299	2	0	0	0.00%	0.00%	265	26,536	0	0	0.00%	0.00%
New Orleans, LA, Miles 88 Thru 106	11	2,774	380	380	0.91%	0.91%	7	30,155,715	12,407,654	12,407,654	1.81%	1.81%
New York & New Jersey Channels Main Ship Chan To Smith Creek NJ	171	62	48	48	0.12%	0.12%	135	1,011,823	957,468	957,468	0.14%	0.14%
New York & New Jersey Channels Piles Creek/to Kill Van Kull Exc Channels South/of Shooters Island	33	930	714	714	1.72%	1.72%	25	10,424,110	10,002,891	10,002,891	1.46%	1.46%
New York & New Jersey Channels Smith Creek To Piles Creek NJ	123	142	120	120	0.29%	0.29%	110	1,579,150	1,499,511	1,499,511	0.22%	0.22%
New York & New Jersey Channels/Housman Avenue To St George S I	110	184	78	78	0.19%	0.19%	94	2,027,450	1,305,283	1,305,283	0.19%	0.19%

Appendix B-1
Analysis of Port Level Constraints, Year 2000

Port Name/Location Name	Relative Call Rank	Number of calls	Constrained Calls with Projects	Constrained Calls without Projects	Percent of Total Constrained Calls with Projects	Percent of Total Constrained Calls without Projects	Relative Tonnage Rank	Number of tons	Constrained tons with projects	Constrained tons without projects	Percent of Total Constrained Tons with Projects	Percent of Total Constrained Tons without Projects
Newark Bay NJ Offshore Connecting Channel/between Port Newark And Port Elizabeth/branch Channels	146	98	54	54	0.13%	0.13%	123	1,238,697	872,812	872,812	0.13%	0.13%
Newark Bay NJ Port Newark Branch Channel	64	440	86	86	0.21%	0.21%	103	1,850,400	1,021,191	1,021,191	0.15%	0.15%
Newark Bay NJ-port Elizabeth Branch Channel	10	2,802	1,930	1,930	4.64%	4.64%	17	14,010,677	11,631,689	11,631,689	1.70%	1.70%
Newport Bay Harbor, CA	211	34	34	34	0.08%	0.08%	247	69,921	69,922	69,922	0.01%	0.01%
Newport News , VA	37	860	52	52	0.12%	0.12%	39	5,969,545	2,013,676	2,013,676	0.29%	0.29%
Niagara River New York Or Harriet	273	6	0	0	0.00%	0.00%	250	61,214	0	0	0.00%	0.00%
Nikishki, AK	121	144	64	64	0.15%	0.15%	95	2,024,483	1,194,733	1,194,733	0.17%	0.17%
Norfolk Harbor, VA Portsmouth VA	5	3,648	238	238	0.57%	0.57%	8	26,848,658	10,327,858	10,327,858	1.51%	1.51%
Norfolk Hbr, VA Eastern Br Eliz R	242	18	0	0	0.00%	0.00%	261	32,441	0	0	0.00%	0.00%
Norfolk Hbr, VA Southern Br Eliz R	108	198	0	0	0.00%	0.00%	96	1,943,370	0	0	0.00%	0.00%
Northeast, Cape Fear River NC	156	90	20	20	0.05%	0.05%	169	502,519	191,259	191,259	0.03%	0.03%
Northville L.I., NY	196	40	4	4	0.01%	0.01%	142	829,331	308,254	308,254	0.04%	0.04%
Oakland Harbor, CA Codes 000-380, 400-835, & 840-999	6	3,290	2,020	2,020	4.86%	4.86%	29	9,158,843	6,673,647	6,673,647	0.97%	0.97%
Ogdensburg Harbor, NY	266	8	8	8	0.02%	0.02%	236	105,073	105,073	105,073	0.02%	0.02%
Olympia Harbor, WA	239	20	14	14	0.03%	0.03%	248	66,111	63,847	63,847	0.01%	0.01%
Oregon Slough Oregon And Bay, OR	36	890	458	458	1.10%	1.10%	67	2,990,526	2,355,159	2,355,159	0.34%	0.34%
Oswego Harbor, NY	161	82	14	14	0.03%	0.03%	177	441,421	112,543	112,543	0.02%	0.02%
Palm Beach Harbor, FL	20	1,882	66	66	0.16%	0.16%	133	1,040,549	255,543	255,543	0.04%	0.04%
Panama City Harbor, FL	82	302	116	116	0.28%	0.28%	171	476,058	211,735	211,735	0.03%	0.03%
Pascagoula Hbr, MS	125	136	6	6	0.01%	0.01%	187	334,578	21,561	21,561	0.00%	0.00%

Appendix B-1
Analysis of Port Level Constraints, Year 2000

Port Name/Location Name	Relative Call Rank	Number of calls	Constrained Calls with Projects	Constrained Calls without Projects	Percent of Total Constrained Calls with Projects	Percent of Total Constrained Calls without Projects	Relative Tonnage Rank	Number of tons	Constrained tons with projects	Constrained tons without projects	Percent of Total Constrained Tons with Projects	Percent of Total Constrained Tons without Projects
Paulsboro, NJ	88	284	232	232	0.56%	0.56%	27	9,456,087	9,074,308	9,074,308	1.32%	1.32%
Penobscot River, ME	206	36	28	28	0.07%	0.07%	207	229,988	198,308	198,308	0.03%	0.03%
Pensacola Hbr, FL	151	96	10	10	0.02%	0.02%	197	283,607	95,272	95,272	0.01%	0.01%
Petty Island NJ	274	6	0	0	0.00%	0.00%	287	1,941	0	0	0.00%	0.00%
Philadelphia, PA On Delaware River/Allegheny Ave To Poquessing Creek	76	324	88	88	0.21%	0.21%	148	749,160	211,616	211,616	0.03%	0.03%
Piscataqua River, NH	80	316	252	252	0.61%	0.61%	72	2,842,688	2,533,176	2,533,176	0.37%	0.37%
Pittsburg, CA	157	90	86	86	0.21%	0.21%	121	1,276,821	1,262,122	1,262,122	0.18%	0.18%
Plymouth Harbor, MA	267	8	6	6	0.01%	0.01%	251	59,816	59,497	59,497	0.01%	0.01%
Ponce Harbor, PR	60	484	202	202	0.49%	0.49%	99	1,895,809	1,398,439	1,398,439	0.20%	0.20%
Port Angeles Harbor, WA	122	144	10	10	0.02%	0.02%	170	502,420	151,686	151,686	0.02%	0.02%
Port Arthur, TX	66	426	132	132	0.32%	0.32%	47	4,435,407	2,493,298	2,493,298	0.36%	0.36%
Port Dolomite, MI	234	22	22	22	0.05%	0.05%	211	204,487	204,488	204,488	0.03%	0.03%
Port Everglades Hbr, FL	3	4,908	288	288	0.69%	0.69%	32	8,254,052	2,121,788	2,121,788	0.31%	0.31%
Port Hueneme, CA	52	566	122	122	0.29%	0.29%	139	901,455	214,845	214,845	0.03%	0.03%
Port Huron, MI	285	4	4	4	0.01%	0.01%	270	17,899	17,900	17,900	0.00%	0.00%
Port Inland, MI	187	46	46	46	0.11%	0.11%	175	448,256	448,256	448,256	0.07%	0.07%
Port Manatee, FL	84	296	36	36	0.09%	0.09%	101	1,886,276	878,110	878,110	0.13%	0.13%
Port Royal, SC	172	62	32	32	0.08%	0.08%	193	305,631	216,555	216,555	0.03%	0.03%
Portland Harbor, Fore River, ME	190	44	30	30	0.07%	0.07%	166	547,927	509,180	509,180	0.07%	0.07%
Portland Harbor, ME	35	900	680	680	1.63%	1.63%	9	26,217,489	23,704,652	23,704,652	3.46%	3.46%
Portland, OR	27	1,320	314	314	0.75%	0.75%	18	13,276,685	5,609,887	5,609,887	0.82%	0.82%
Portsmouth Hbr, NH	186	48	28	28	0.07%	0.07%	181	402,452	316,671	316,671	0.05%	0.05%
Potomac River Below Washington DC/mouth To Giesboro Point	258	10	10	10	0.02%	0.02%	228	137,222	137,222	137,222	0.02%	0.02%
Presque Isle Harbor, MI	85	296	296	296	0.71%	0.71%	84	2,287,505	2,287,505	2,287,505	0.33%	0.33%
Providence River and Harbor, RI	83	298	72	72	0.17%	0.17%	71	2,869,390	927,550	927,550	0.14%	0.14%

Appendix B-1
Analysis of Port Level Constraints, Year 2000

Port Name/Location Name	Relative Call Rank	Number of calls	Constrained Calls with Projects	Constrained Calls without Projects	Percent of Total Constrained Calls with Projects	Percent of Total Constrained Calls without Projects	Relative Tonnage Rank	Number of tons	Constrained tons with projects	Constrained tons without projects	Percent of Total Constrained Tons with Projects	Percent of Total Constrained Tons without Projects
Raritan River NJ Main Channel/raritan Bay To Ostranders Dock/Keasby NJ	268	8	6	6	0.01%	0.01%	272	16,074	13,417	13,417	0.00%	0.00%
Redwood City Hbr, CA	197	40	34	34	0.08%	0.08%	158	636,709	607,341	607,341	0.09%	0.09%
Rensselaer, NY	243	18	18	18	0.04%	0.04%	209	216,396	216,396	216,396	0.03%	0.03%
Revillagigedo Channel	247	16	4	4	0.01%	0.01%	221	163,053	49,202	49,202	0.01%	0.01%
Richmond Harbor, CA Outer Harbor, Codes 000-699	54	550	194	194	0.47%	0.47%	28	9,261,938	6,946,899	6,946,899	1.01%	1.01%
Sabine, Pass Harbor, TX	248	16	0	0	0.00%	0.00%	290	1,285	0	0	0.00%	0.00%
Saginaw, MI	147	98	92	92	0.22%	0.22%	162	610,105	590,254	590,254	0.09%	0.09%
Salem Harbor, MA	217	32	32	32	0.08%	0.08%	163	608,980	608,980	608,980	0.09%	0.09%
Salem River, NJ	127	134	126	126	0.30%	0.30%	224	150,192	149,710	149,710	0.02%	0.02%
San Diego Harbor, CA	29	1,056	82	82	0.20%	0.20%	81	2,517,139	952,910	952,910	0.14%	0.14%
San Francisco Hbr, CA	56	504	86	86	0.21%	0.21%	68	2,982,025	2,061,635	2,061,635	0.30%	0.30%
San Juan Hbr, PR	8	2,956	172	172	0.41%	0.41%	43	4,846,975	1,570,582	1,570,582	0.23%	0.23%
San Pablo Bay & Mare I Strait, CA	174	58	20	20	0.05%	0.05%	140	859,190	588,618	588,618	0.09%	0.09%
Sandusky Harbor, OH	97	234	234	234	0.56%	0.56%	76	2,641,146	2,641,147	2,641,147	0.39%	0.39%
Sault Ste Marie, MI	286	4	4	4	0.01%	0.01%	273	15,409	15,409	15,409	0.00%	0.00%
Savannah Harbor, GA	7	3,232	1,252	1,252	3.01%	3.01%	16	15,093,845	7,436,037	7,436,037	1.08%	1.08%
Schuylkill River Phila, PA Project	207	36	20	20	0.05%	0.05%	225	139,535	77,992	77,992	0.01%	0.01%
Searsport Hbr, Me	119	150	94	94	0.23%	0.23%	141	837,541	586,728	586,728	0.09%	0.09%
Seattle Harbor, WA Duwamish River	41	808	66	66	0.16%	0.16%	74	2,736,525	535,716	535,716	0.08%	0.08%
Seattle Harbor, WA East Waterway	26	1,374	862	862	2.07%	2.07%	45	4,700,068	3,765,872	3,765,872	0.55%	0.55%
Seattle Harbor, WA Elliott Bay	61	480	300	300	0.72%	0.72%	56	3,505,668	3,293,349	3,293,349	0.48%	0.48%
Seattle Harbor, WA Harbor Island	109	192	0	0	0.00%	0.00%	190	321,917	0	0	0.00%	0.00%
Seattle Harbor, WA West Waterway	79	320	280	280	0.67%	0.67%	90	2,126,766	2,102,852	2,102,852	0.31%	0.31%

Appendix B-1
Analysis of Port Level Constraints, Year 2000

Port Name/Location Name	Relative Call Rank	Number of calls	Constrained Calls with Projects	Constrained Calls without Projects	Percent of Total Constrained Calls with Projects	Percent of Total Constrained Calls without Projects	Relative Tonnage Rank	Number of tons	Constrained tons with projects	Constrained tons without projects	Percent of Total Constrained Tons with Projects	Percent of Total Constrained Tons without Projects
Seattle Harbor, WA/Richmond Beach To Edmonds	287	4	2	2	0.00%	0.00%	271	17,264	10,986	10,986	0.00%	0.00%
Seward, AK	223	26	26	26	0.06%	0.06%	154	648,944	648,944	648,944	0.09%	0.09%
Silver Bay, MN	300	2	2	2	0.00%	0.00%	275	9,072	9,072	9,072	0.00%	0.00%
Skagway Harbor, AK	227	24	10	10	0.02%	0.02%	260	33,806	13,502	13,502	0.00%	0.00%
St Ignace, MI	288	4	0	0	0.00%	0.00%	264	27,329	0	0	0.00%	0.00%
St., Paul Is., AK (Pribilof Island-coast)	301	2	0	0	0.00%	0.00%	292	1,034	0	0	0.00%	0.00%
Steilacoom, WA	275	6	0	0	0.00%	0.00%	262	31,410	0	0	0.00%	0.00%
Stockton, CA	104	208	152	152	0.37%	0.37%	107	1,731,923	1,488,077	1,488,077	0.22%	0.22%
Stoneport, MI	218	32	30	30	0.07%	0.07%	202	259,603	250,894	250,894	0.04%	0.04%
Suisun Bay Channel, CA	259	10	6	6	0.01%	0.01%	232	117,811	65,999	65,999	0.01%	0.01%
Superior, WI	67	416	384	384	0.92%	0.92%	46	4,648,149	4,308,741	4,308,741	0.63%	0.63%
Tacoma Harbor, WA	18	2,058	1,050	1,050	2.52%	2.52%	21	12,469,598	7,525,988	7,525,988	1.10%	1.10%
Tacoma Harbor, WA Middle Waterway	182	50	0	0	0.00%	0.00%	242	84,962	0	0	0.00%	0.00%
Tampa Harbor, FL	23	1,470	80	80	0.19%	0.19%	19	13,165,953	3,059,281	3,059,281	0.45%	0.45%
Texas City, TX	24	1,408	918	918	2.21%	2.21%	5	32,851,236	30,401,738	30,401,738	4.43%	4.43%
Thru 04470 Philadelphia, PA On Delaware Rv/Hog Island To Allegheny Ave	22	1,672	398	398	0.96%	0.96%	10	26,137,980	22,171,580	22,171,580	3.23%	3.23%
Thru 66540 Giww Galveston To Corpus Christi	139	112	56	56	0.13%	0.13%	124	1,237,973	926,137	926,137	0.14%	0.14%
Thru 77647 Port Of Chicago Il/calumet Harbor, & River Il & In-south Chicago	72	356	292	292	0.70%	0.70%	63	3,164,752	2,970,244	2,970,244	0.43%	0.43%
Togiak, AK (Bristol Bay)	302	2	0	0	0.00%	0.00%	296	381	0	0	0.00%	0.00%
Toledo, OH	47	672	528	528	1.27%	1.27%	35	6,690,619	6,158,895	6,158,895	0.90%	0.90%
Tullytown, PA	249	16	10	10	0.02%	0.02%	196	289,193	193,595	193,595	0.03%	0.03%
Unak Bay & Island, AK/(Iliuliuk & Dutch Hbr.)	126	136	66	66	0.16%	0.16%	220	163,077	48,432	48,432	0.01%	0.01%

Appendix B-1
Analysis of Port Level Constraints, Year 2000

Port Name/Location Name	Relative Call Rank	Number of calls	Constrained Calls with Projects	Constrained Calls without Projects	Percent of Total Constrained Calls with Projects	Percent of Total Constrained Calls without Projects	Relative Tonnage Rank	Number of tons	Constrained tons with projects	Constrained tons without projects	Percent of Total Constrained Tons with Projects	Percent of Total Constrained Tons without Projects
Upper Bay, NY Narrows To/Municipal Ferry Dock St Geo Si/exc Bay Ridge Red Hook & Buttermilk Channels	30	1,042	376	376	0.90%	0.90%	13	19,261,933	11,251,350	11,251,350	1.64%	1.64%
Upper Bay, NY/bayonne NJ To Claremont NJ/bay Ridge Flats And Bedloes Is	31	980	68	68	0.16%	0.16%	62	3,169,852	579,795	579,795	0.08%	0.08%
Valdez, AK	235	22	0	0	0.00%	0.00%	118	1,335,316	0	0	0.00%	0.00%
Vancouver, WA	59	486	104	104	0.25%	0.25%	52	3,957,580	1,564,342	1,564,342	0.23%	0.23%
Wando River, SC	21	1,744	1,520	1,520	3.65%	3.65%	33	7,345,897	6,665,733	6,665,733	0.97%	0.97%
Waukegan, IL	289	4	0	0	0.00%	0.00%	276	8,168	0	0	0.00%	0.00%
Wauna, OR	236	22	0	0	0.00%	0.00%	266	25,236	0	0	0.00%	0.00%
Whittier, AK	180	52	0	0	0.00%	0.00%	263	30,003	0	0	0.00%	0.00%
Wilmington Harbor, NC	44	738	404	404	0.97%	0.97%	73	2,780,276	2,013,070	2,013,070	0.29%	0.29%
Wilmington Harbor, Southport NC	201	38	12	12	0.03%	0.03%	230	122,030	44,016	44,016	0.01%	0.01%
Yolo Port District, CA	143	106	84	84	0.20%	0.20%	147	751,766	619,424	619,424	0.09%	0.09%
York River, VA	175	58	58	58	0.14%	0.14%	122	1,239,224	1,239,223	1,239,223	0.18%	0.18%

Appendix B-2
Analysis of Port Level Constraints, Year 2010

Port Name/Location Name	Relative Call Rank	Number of calls	Constrained Calls with Projects	Constrained Calls without Projects	Percent of Total Constrained Calls with Projects	Percent of Total Constrained Calls without Projects	Relative Tonnage Rank	Number of tons	Constrained tons with projects	Constrained tons without projects	Percent of Total Constrained Tons with Projects	Percent of Total Constrained Tons without Projects
Adak Island, AK (coast)	272	10	0	0	0.00%	0.00%	288	3,067	0	0	0.00%	0.00%
Afognak Island, AK	248	21	0	0	0.00%	0.00%	250	97,752	0	0	0.00%	0.00%
Alabaster, MI	220	42	42	42	0.11%	0.06%	214	280,251	280,252	280,252	0.05%	0.03%
Albany, NY	138	169	77	77	0.20%	0.10%	171	682,994	538,499	538,499	0.09%	0.06%
Alpena, MI	230	34	8	8	0.02%	0.01%	235	151,752	39,622	39,622	0.01%	0.00%
Anacortes Harbor, WA	83	446	76	76	0.19%	0.10%	106	2,463,573	1,125,909	1,125,909	0.19%	0.13%
Anchorage, AK	218	45	10	10	0.03%	0.01%	198	400,809	16,946	16,946	0.00%	0.00%
Arecibo Harbor, PR	264	14	0	0	0.00%	0.00%	282	7,632	0	0	0.00%	0.00%
Asharoken, L I	273	10	0	0	0.00%	0.00%	230	185,569	0	0	0.00%	0.00%
Ashtabula Harbor, OH	128	199	190	190	0.48%	0.26%	82	3,401,778	3,308,372	3,308,372	0.56%	0.37%
Astoria, OR	202	60	4	29	0.01%	0.04%	176	624,077	122,784	412,006	0.02%	0.05%
Atchafalaya R Morgan Cty To Gulf	278	7	5	5	0.01%	0.01%	284	5,524	5,260	5,260	0.00%	0.00%
Baltimore Hbr and Channels, MD	12	5,249	93	93	0.24%	0.13%	12	30,100,484	3,601,779	3,601,779	0.61%	0.40%
Bangor Township, MI	298	3	3	3	0.01%	0.00%	285	4,180	4,180	4,180	0.00%	0.00%
Barbers Point Channel Oahu	144	157	71	89	0.18%	0.12%	75	4,021,751	2,838,856	3,277,926	0.48%	0.36%
Baton Rouge, LA Miles 226 Thru 235	65	760	0	239	0.00%	0.32%	34	11,728,658	0	7,286,642	0.00%	0.81%
Bay Ridge Channel, NY	252	18	14	14	0.04%	0.02%	272	22,229	16,848	16,848	0.00%	0.00%
Bayou Casotte, MS	54	1,044	723	723	1.84%	0.98%	19	20,343,191	19,784,299	19,784,299	3.38%	2.20%
Bayou La Batre, AL	208	52	52	52	0.13%	0.07%	291	1,934	1,934	1,934	0.00%	0.00%
Beaumont, TX	24	2,738	2,024	2,024	5.14%	2.75%	3	75,503,397	70,837,460	70,837,460	12.09%	7.88%
Bellingham Bay & Harbor, WA Main Channel	283	6	0	0	0.00%	0.00%	286	4,072	0	0	0.00%	0.00%
Bellingham Bay & Harbor, WA/Squalicum Creek Waterway	293	4	0	0	0.00%	0.00%	299	434	0	0	0.00%	0.00%
Bellingham Bay & Harbor, WA/Whatcom Creek Waterway	140	164	88	88	0.22%	0.12%	211	291,673	168,525	168,525	0.03%	0.02%
Biloxi Harbor, MS	279	7	0	0	0.00%	0.00%	287	3,788	0	0	0.00%	0.00%

Appendix B-2
Analysis of Port Level Constraints, Year 2010

Port Name/Location Name	Relative Call Rank	Number of calls	Constrained Calls with Projects	Constrained Calls without Projects	Percent of Total Constrained Calls with Projects	Percent of Total Constrained Calls without Projects	Relative Tonnage Rank	Number of tons	Constrained tons with projects	Constrained tons without projects	Percent of Total Constrained Tons with Projects	Percent of Total Constrained Tons without Projects
Boston MA Island End River	108	310	60	60	0.15%	0.08%	108	2,424,943	718,701	718,701	0.12%	0.08%
Boston MA Town River	201	61	58	58	0.15%	0.08%	239	137,825	132,420	132,420	0.02%	0.01%
Boston, MA Chelsea River	80	459	283	283	0.72%	0.38%	62	4,764,128	3,236,436	3,236,436	0.55%	0.36%
Boston, MA Main Water Front	59	871	144	296	0.37%	0.40%	103	2,578,312	365,518	869,651	0.06%	0.10%
Boston, MA Mystic River	71	606	89	89	0.23%	0.12%	92	3,101,604	1,925,987	1,925,987	0.33%	0.21%
Boston, MA Weymouth Fore River	239	27	24	24	0.06%	0.03%	225	220,039	216,010	216,010	0.04%	0.02%
Bridgeport, CT Main Harbor	87	425	47	47	0.12%	0.06%	138	1,368,928	540,401	540,401	0.09%	0.06%
Brownsville Ship Channel, TX	72	593	223	223	0.57%	0.30%	105	2,486,990	1,654,784	1,654,784	0.28%	0.18%
Brunswick Hbr, GA	42	1,428	594	1,263	1.51%	1.71%	88	3,204,434	1,808,058	2,828,355	0.31%	0.31%
Buffalo Harbor, NY	177	90	35	35	0.09%	0.05%	192	456,637	287,648	287,648	0.05%	0.03%
Burlington, NJ	232	32	8	8	0.02%	0.01%	195	421,012	102,304	102,304	0.02%	0.01%
Burns Waterway Harbor, IN	115	264	236	236	0.60%	0.32%	115	2,053,202	2,020,430	2,020,430	0.34%	0.22%
Buttermilk Channel, NY	47	1,218	589	589	1.50%	0.80%	71	4,248,605	2,394,819	2,394,819	0.41%	0.27%
Calcasieu River and Pass Lake Charles, LA	109	308	166	166	0.42%	0.23%	48	6,298,389	5,736,242	5,736,242	0.98%	0.64%
Calcite, MI	133	190	182	182	0.46%	0.25%	125	1,784,720	1,780,275	1,780,275	0.30%	0.20%
Camden, NJ	49	1,206	8	92	0.02%	0.12%	93	3,064,952	179,542	550,376	0.03%	0.06%
Canaveral Harbor, FL	30	2,012	111	111	0.28%	0.15%	59	4,926,474	1,143,781	1,143,781	0.20%	0.13%
Carquinez Strait, CA	76	526	90	90	0.23%	0.12%	57	5,002,226	1,911,462	1,911,462	0.33%	0.21%
Catskill, NY	288	5	5	5	0.01%	0.01%	261	61,754	61,754	61,754	0.01%	0.01%
Cementon, NY	192	65	60	60	0.15%	0.08%	166	772,463	763,037	763,037	0.13%	0.08%
Charleston Ashley River, SC	262	15	11	11	0.03%	0.01%	220	226,250	202,906	202,906	0.03%	0.02%
Charleston Cooper River, SC	18	4,024	486	1,804	1.23%	2.45%	30	13,528,150	2,974,924	8,965,261	0.51%	1.00%
Charleston Shipyard River, SC	263	15	5	5	0.01%	0.01%	248	102,722	60,478	60,478	0.01%	0.01%
Charlevoix Michigan Ironton, MI	236	30	5	5	0.01%	0.01%	242	122,965	24,580	24,580	0.00%	0.00%

Appendix B-2
Analysis of Port Level Constraints, Year 2010

Port Name/Location Name	Relative Call Rank	Number of calls	Constrained Calls with Projects	Constrained Calls without Projects	Percent of Total Constrained Calls with Projects	Percent of Total Constrained Calls without Projects	Relative Tonnage Rank	Number of tons	Constrained tons with projects	Constrained tons without projects	Percent of Total Constrained Tons with Projects	Percent of Total Constrained Tons without Projects
Chesapeake Bay Open Waters	187	69	7	7	0.02%	0.01%	155	1,010,984	284,492	284,492	0.05%	0.03%
Chester, PA	222	40	24	24	0.06%	0.03%	153	1,018,586	947,540	947,540	0.16%	0.11%
Christina River Wilmington De	28	2,112	569	569	1.45%	0.77%	39	7,943,046	4,211,718	4,211,718	0.72%	0.47%
Claymont, DE	210	51	2	2	0.01%	0.00%	189	474,743	68,871	68,871	0.01%	0.01%
Cleveland Harbor, OH	68	707	443	443	1.13%	0.60%	80	3,473,001	2,374,366	2,374,366	0.41%	0.26%
Clinton Point, NY	294	4	4	4	0.01%	0.01%	277	16,977	16,977	16,977	0.00%	0.00%
Coeymans, NY	233	32	2	2	0.01%	0.00%	223	220,867	9,577	9,577	0.00%	0.00%
Conneaut Harbor, OH	112	302	229	229	0.58%	0.31%	85	3,356,026	3,174,240	3,174,240	0.54%	0.35%
Cooper River Above Charleston Hbr	237	30	0	0	0.00%	0.00%	206	321,917	0	0	0.00%	0.00%
Coos Bay, OR Inside Channel To/Millington, OR	157	128	104	104	0.26%	0.14%	149	1,058,434	984,532	984,532	0.17%	0.11%
Corpus Christi, TX	23	3,099	450	1,319	1.14%	1.79%	4	63,339,492	13,948,770	44,741,558	2.38%	4.98%
Dania Cut Off Canal, FL	36	1,648	186	186	0.47%	0.25%	241	130,100	23,177	23,177	0.00%	0.00%
Davisville, RI	195	64	60	60	0.15%	0.08%	254	87,032	86,244	86,244	0.01%	0.01%
Dearborn MI See Rouge Riv/Rouge River MI Dearborn MI	92	375	226	226	0.57%	0.31%	90	3,193,920	2,446,702	2,446,702	0.42%	0.27%
Delair, NJ	204	58	47	47	0.12%	0.06%	165	798,338	688,340	688,340	0.12%	0.08%
Delaware City, DE	150	141	78	99	0.20%	0.13%	83	3,381,714	3,136,135	3,200,619	0.54%	0.36%
Detroit, MI	73	588	368	368	0.94%	0.50%	96	2,970,875	2,449,959	2,449,959	0.42%	0.27%
Duluth, MN	94	357	276	276	0.70%	0.37%	64	4,642,373	4,203,180	4,203,180	0.72%	0.47%
Eagle Point Westville, NJ	114	267	123	143	0.31%	0.19%	38	8,197,351	7,315,461	7,485,960	1.25%	0.83%
East Pearl River, MS	75	528	20	20	0.05%	0.03%	219	229,779	9,783	9,783	0.00%	0.00%
East River NY Upper NY Bay To USN Shipyard	120	228	99	99	0.25%	0.13%	117	1,964,508	938,423	938,423	0.16%	0.10%
East River, NY/USN Shipyd, Excluding East Channel	155	130	49	49	0.12%	0.07%	150	1,049,075	516,099	516,099	0.09%	0.06%
Eastport Hbr, ME	39	1,565	37	37	0.09%	0.05%	196	412,880	199,510	199,510	0.03%	0.02%
Ecorse, MI	151	141	98	98	0.25%	0.13%	180	584,864	556,326	556,326	0.09%	0.06%

Appendix B-2
Analysis of Port Level Constraints, Year 2010

Port Name/Location Name	Relative Call Rank	Number of calls	Constrained Calls with Projects	Constrained Calls without Projects	Percent of Total Constrained Calls with Projects	Percent of Total Constrained Calls without Projects	Relative Tonnage Rank	Number of tons	Constrained tons with projects	Constrained tons without projects	Percent of Total Constrained Tons with Projects	Percent of Total Constrained Tons without Projects
Eddystone, PA	95	356	2	5	0.01%	0.01%	139	1,359,207	77,005	81,403	0.01%	0.01%
El Segundo, CA	101	336	139	139	0.35%	0.19%	37	8,243,030	5,552,266	5,552,266	0.95%	0.62%
Erie Harbor, PA	269	11	11	11	0.03%	0.01%	232	180,728	180,729	180,729	0.03%	0.02%
Essexville, MI	158	128	16	16	0.04%	0.02%	143	1,283,916	178,121	178,121	0.03%	0.02%
Everett Harbor, WA Outer Harbor	113	300	80	80	0.20%	0.11%	162	849,700	571,269	571,269	0.10%	0.06%
Fajardo Hbr, PR	146	154	77	77	0.20%	0.10%	130	1,570,411	1,544,976	1,544,976	0.26%	0.17%
Fall River Hbr, MA	164	106	48	48	0.12%	0.07%	157	975,593	728,052	728,052	0.12%	0.08%
False, Pass, AK (coast)	289	5	0	0	0.00%	0.00%	296	845	0	0	0.00%	0.00%
Fernandina, FL	55	988	49	49	0.12%	0.07%	169	707,093	71,294	71,294	0.01%	0.01%
Ferndale, WA	98	342	7	7	0.02%	0.01%	119	1,909,377	102,485	102,485	0.02%	0.01%
Fort Pierce Hbr, FL	103	324	21	21	0.05%	0.03%	258	79,113	16,078	16,078	0.00%	0.00%
Freeport Harbor, TX	27	2,176	587	587	1.49%	0.80%	14	27,236,776	21,101,089	21,101,089	3.60%	2.35%
Galveston Channel, TX	50	1,152	79	295	0.20%	0.40%	45	6,676,556	2,745,012	4,310,394	0.47%	0.48%
Gary, IN	254	17	15	15	0.04%	0.02%	210	298,153	285,571	285,571	0.05%	0.03%
Gloucester, NJ	52	1,123	0	39	0.00%	0.05%	136	1,405,671	0	83,559	0.00%	0.01%
Grand Haven Harbor, MI	186	70	70	70	0.18%	0.09%	178	616,328	616,327	616,327	0.11%	0.07%
Grays Harbor, & Chehalis River Wa/North Aberdeen And North Channel	213	49	38	38	0.10%	0.05%	253	87,328	64,554	64,554	0.01%	0.01%
Grays Hbr & Chehalis River, WA South Aberdeen	172	96	49	49	0.12%	0.07%	191	463,446	306,977	306,977	0.05%	0.03%
Grays Hbr & Chehalis River, WA Westhaven	258	16	0	0	0.00%	0.00%	300	191	0	0	0.00%	0.00%
Green Bay, WI	299	3	3	3	0.01%	0.00%	270	25,244	25,244	25,244	0.00%	0.00%
Guanica Hbr, PR	224	39	37	37	0.09%	0.05%	227	202,759	200,986	200,986	0.03%	0.02%
Guayanilla Hbr, PR	79	462	213	213	0.54%	0.29%	70	4,280,214	3,410,460	3,410,460	0.58%	0.38%
Gulf Outlet Miles 70-73	152	141	54	54	0.14%	0.07%	128	1,613,238	1,046,652	1,046,652	0.18%	0.12%
Gulf Via Tiger, Pass	290	5	0	0	0.00%	0.00%	302	4	0	0	0.00%	0.00%
Gulfport Hbr & Ship Is Pass, MS	22	3,260	366	366	0.93%	0.50%	63	4,677,363	629,089	629,089	0.11%	0.07%

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Hackensack River NJ/upper End Of Newark Bay Channel/to Koppers Co Bulkhead Kearny NJ	275	8	0	0	0.00%	0.00%	262	57,650	0	0	0.00%	0.00%
Homer, AK	193	65	47	47	0.12%	0.06%	218	251,446	141,460	141,460	0.02%	0.02%
Honolulu Hbr, Oahu, HI	44	1,354	79	79	0.20%	0.11%	51	5,604,796	3,268,466	3,268,466	0.56%	0.36%
Hoonah, AK	295	4	4	4	0.01%	0.01%	293	1,893	1,893	1,893	0.00%	0.00%
Houston Ship Channel, TX	1	15,398	2,571	5,208	6.53%	7.06%	1	165,583,499	82,719,684	116,234,812	14.12%	12.93%
Hudson River Channel, NY & NJ/NY Shore W 40 To W 59 St, NY	244	24	5	5	0.01%	0.01%	276	16,990	3,993	3,993	0.00%	0.00%
Hudson River, NY & NJ Yonkers NY	259	16	2	2	0.01%	0.00%	249	100,409	22,852	22,852	0.00%	0.00%
Humboldt Harbor, AK (coast)	296	4	4	4	0.01%	0.01%	289	2,873	2,873	2,873	0.00%	0.00%
Humboldt Hbr & Bay, CA	139	168	120	120	0.30%	0.16%	190	469,212	400,524	400,524	0.07%	0.04%
Huron Harbor, OH	276	8	8	8	0.02%	0.01%	257	82,297	82,297	82,297	0.01%	0.01%
Icw Port Everglades Harbor, Fl Miles 175 Thru 183	242	25	0	0	0.00%	0.00%	301	57	0	0	0.00%	0.00%
Icw, PALm Beach Harbor, Fl Miles 223 Thru 230	280	7	0	0	0.00%	0.00%	295	1,077	0	0	0.00%	0.00%
Icy Bay, AK	234	32	0	0	0.00%	0.00%	236	146,798	0	0	0.00%	0.00%
Indiana Harbor Indiana East Chicago, IN	196	64	44	44	0.11%	0.06%	181	584,099	532,972	532,972	0.09%	0.06%
Inner Harbor Navigation Canal, LA	37	1,644	860	860	2.19%	1.17%	69	4,288,275	2,423,588	2,423,588	0.41%	0.27%
Jacksonville Harbor, FL	14	4,602	881	957	2.24%	1.30%	32	13,104,211	7,138,957	7,919,710	1.22%	0.88%
James River & Port of Hopewell, VA	205	58	19	19	0.05%	0.03%	215	274,266	169,491	169,491	0.03%	0.02%
James River, VA	105	314	104	104	0.26%	0.14%	148	1,061,076	411,478	411,478	0.07%	0.05%
Jobos Hbr, PR	135	188	156	156	0.40%	0.21%	124	1,828,185	1,767,261	1,767,261	0.30%	0.20%
Juneau Gastineau Channel, AK	123	214	7	7	0.02%	0.01%	228	195,958	11,542	11,542	0.00%	0.00%

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Kalama, WA	86	430	65	271	0.17%	0.37%	49	5,858,344	1,645,963	4,679,376	0.28%	0.52%
Ketchikan, AK (Tongass Narrows)	250	20	16	16	0.04%	0.02%	243	117,245	102,288	102,288	0.02%	0.01%
Key West Hbr, FL	266	12	0	0	0.00%	0.00%	298	443	0	0	0.00%	0.00%
Kivilina, AK (coast)	179	87	0	0	0.00%	0.00%	126	1,747,814	0	0	0.00%	0.00%
Kodiak Island, AK (coast)	265	13	0	0	0.00%	0.00%	280	10,064	0	0	0.00%	0.00%
Lake Calumet, IL	211	51	36	36	0.09%	0.05%	233	171,354	130,391	130,391	0.02%	0.01%
Lake Washington Ship Canal, WA/Ballard	284	6	6	6	0.02%	0.01%	278	11,828	11,828	11,828	0.00%	0.00%
Little Sandy River, OR	285	6	2	2	0.01%	0.00%	283	5,846	2,620	2,620	0.00%	0.00%
Long Beach Harbor, CA	9	6,080	9	110	0.02%	0.15%	5	62,367,682	956,878	5,460,388	0.16%	0.61%
Long Beach Outer Harbor, CA	10	5,897	0	0	0.00%	0.00%	7	41,249,118	0	0	0.00%	0.00%
Longview (Mt. Coffin)	174	94	0	73	0.00%	0.10%	135	1,455,240	0	1,259,725	0.00%	0.14%
Longview, WA	84	443	48	146	0.12%	0.20%	86	3,284,278	499,613	1,500,413	0.09%	0.17%
Lorain Harbor, OH	228	36	34	34	0.09%	0.05%	216	268,935	246,208	246,208	0.04%	0.03%
Los Angeles Harbor, CA	3	11,666	0	0	0.00%	0.00%	2	88,455,294	0	0	0.00%	0.00%
Lower Delaware Bay, DE	111	305	269	272	0.68%	0.37%	31	13,179,052	12,851,695	12,871,271	2.19%	1.43%
Lower Miss River Mile 108	134	189	0	26	0.00%	0.04%	134	1,466,208	0	718,830	0.00%	0.08%
Lower Miss River Mile 116	255	17	0	2	0.00%	0.00%	240	135,908	0	93,878	0.00%	0.01%
Lower Miss River Mile 118	81	453	18	70	0.05%	0.09%	72	4,202,638	670,000	1,774,392	0.11%	0.20%
Lower Miss River Mile 120	48	1,212	20	358	0.05%	0.49%	21	19,752,646	798,060	8,816,546	0.14%	0.98%
Lower Miss River Mile 125	214	49	0	19	0.00%	0.03%	145	1,170,734	0	764,386	0.00%	0.09%
Lower Miss River Mile 126	206	53	0	6	0.00%	0.01%	158	933,687	0	158,982	0.00%	0.02%
Lower Miss River Mile 127	197	63	0	2	0.00%	0.00%	197	406,096	0	41,018	0.00%	0.00%
Lower Miss River Mile 128	129	198	0	59	0.00%	0.08%	101	2,682,203	0	1,538,838	0.00%	0.17%
Lower Miss River Mile 132	183	74	0	2	0.00%	0.00%	251	95,236	0	2,106	0.00%	0.00%
Lower Miss River Mile 138	167	102	0	42	0.00%	0.06%	111	2,313,035	0	1,354,083	0.00%	0.15%
Lower Miss River Mile 139	64	837	0	238	0.00%	0.32%	28	13,828,537	0	6,926,487	0.00%	0.77%
Lower Miss River Mile 140	170	97	19	90	0.05%	0.12%	100	2,711,423	639,537	2,597,282	0.11%	0.29%
Lower Miss River Mile 144	182	79	0	11	0.00%	0.01%	159	886,062	0	141,384	0.00%	0.02%
Lower Miss River Mile 145	191	66	0	37	0.00%	0.05%	147	1,139,191	0	842,037	0.00%	0.09%

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Lower Miss River Mile 146	245	24	0	0	0.00%	0.00%	247	103,209	0	0	0.00%	0.00%
Lower Miss River Mile 148	176	92	2	71	0.01%	0.10%	97	2,968,801	82,100	2,609,684	0.01%	0.29%
Lower Miss River Mile 150	136	187	0	15	0.00%	0.02%	116	1,981,765	0	439,311	0.00%	0.05%
Lower Miss River Mile 158	93	370	2	15	0.01%	0.02%	99	2,854,496	19,799	251,655	0.00%	0.03%
Lower Miss River Mile 159	137	178	7	141	0.02%	0.19%	55	5,531,153	243,691	5,039,710	0.04%	0.56%
Lower Miss River Mile 160	243	25	0	22	0.00%	0.03%	163	818,078	0	781,492	0.00%	0.09%
Lower Miss River Mile 161	225	38	0	0	0.00%	0.00%	217	261,081	0	0	0.00%	0.00%
Lower Miss River Mile 166	122	218	0	35	0.00%	0.05%	102	2,668,994	0	1,151,697	0.00%	0.13%
Lower Miss River Mile 167	142	162	7	23	0.02%	0.03%	122	1,835,753	83,329	495,960	0.01%	0.06%
Lower Miss River Mile 168	207	53	0	43	0.00%	0.06%	127	1,723,287	0	1,573,173	0.00%	0.17%
Lower Miss River Mile 169	125	208	0	64	0.00%	0.09%	91	3,119,587	0	1,895,949	0.00%	0.21%
Lower Miss River Mile 173	238	29	0	0	0.00%	0.00%	208	315,066	0	0	0.00%	0.00%
Lower Miss River Mile 183	159	127	0	0	0.00%	0.00%	199	392,402	0	0	0.00%	0.00%
Lower Miss River Mile 187	226	37	0	7	0.00%	0.01%	202	361,880	0	160,036	0.00%	0.02%
Lower Miss River Mile 2	251	19	2	2	0.01%	0.00%	221	223,746	54,053	54,053	0.01%	0.01%
Lower Miss River Mile 200	274	10	0	0	0.00%	0.00%	279	11,350	0	0	0.00%	0.00%
Lower Miss River Mile 203	221	41	0	4	0.00%	0.01%	204	355,597	0	90,144	0.00%	0.01%
Lower Miss River Mile 205	153	140	0	0	0.00%	0.00%	185	544,662	0	0	0.00%	0.00%
Lower Miss River Mile 210	162	121	2	5	0.01%	0.01%	156	1,004,945	90,587	129,227	0.02%	0.01%
Lower Miss River Mile 27	171	97	9	97	0.02%	0.13%	79	3,539,591	324,853	3,539,592	0.06%	0.39%
Lower Miss River Mile 53	217	47	0	17	0.00%	0.02%	161	855,632	0	446,108	0.00%	0.05%
Lower Miss River Mile 55	131	195	0	71	0.00%	0.10%	74	4,030,726	0	2,466,442	0.00%	0.27%
Lower Miss River Mile 57	148	150	0	63	0.00%	0.09%	87	3,252,872	0	2,032,457	0.00%	0.23%
Lower Miss River Mile 61	96	352	0	115	0.00%	0.16%	53	5,556,023	0	3,181,747	0.00%	0.35%
Lower Miss River Mile 63	260	16	0	12	0.00%	0.02%	194	429,923	0	384,876	0.00%	0.04%
Lower Miss River Mile 72	110	308	9	112	0.02%	0.15%	61	4,798,944	385,877	3,322,504	0.07%	0.37%
Lower Miss River Mile 83	100	338	2	70	0.01%	0.09%	77	3,664,300	83,199	1,630,326	0.01%	0.18%
Lower Miss River Mile 87	181	82	0	61	0.00%	0.08%	110	2,334,057	0	2,108,767	0.00%	0.23%
Ludington Harbor, MI	198	63	26	26	0.07%	0.04%	212	284,558	143,192	143,192	0.02%	0.02%
Manistee Harbor, MI	281	7	0	0	0.00%	0.00%	269	30,016	0	0	0.00%	0.00%
Marblehead, OH	180	83	83	83	0.21%	0.11%	175	646,776	646,776	646,776	0.11%	0.07%

Appendix B-2
Analysis of Port Level Constraints, Year 2010

Port Name/Location Name	Relative Call Rank	Number of calls	Constrained Calls with Projects	Constrained Calls without Projects	Percent of Total Constrained Calls with Projects	Percent of Total Constrained Calls without Projects	Relative Tonnage Rank	Number of tons	Constrained tons with projects	Constrained tons without projects	Percent of Total Constrained Tons with Projects	Percent of Total Constrained Tons without Projects
Marcus Hook, PA	74	530	303	334	0.77%	0.45%	26	14,092,384	12,905,692	13,048,710	2.20%	1.45%
Marine City, MI	261	16	16	16	0.04%	0.02%	237	146,790	146,789	146,789	0.03%	0.02%
Marysville, MI	178	89	71	71	0.18%	0.10%	177	622,072	596,609	596,609	0.10%	0.07%
Matagorda Ship Channel, TX	69	686	455	455	1.16%	0.62%	43	7,017,874	5,886,058	5,886,058	1.00%	0.65%
Mayaguez Hbr, PR	57	932	28	28	0.07%	0.04%	182	572,491	116,185	116,185	0.02%	0.01%
Miami Harbor, FL	2	12,052	71	1,104	0.18%	1.50%	27	13,843,290	29,476	3,224,369	0.01%	0.36%
Miami River, FL	17	4,248	2,422	2,422	6.15%	3.29%	140	1,339,513	1,007,720	1,007,720	0.17%	0.11%
Michoud Canal, LA	141	163	90	90	0.23%	0.12%	113	2,188,312	1,717,921	1,717,921	0.29%	0.19%
Milwaukee, WI	117	260	212	212	0.54%	0.29%	133	1,501,021	1,386,314	1,386,314	0.24%	0.15%
Mobile Harbor AL	45	1,254	8	259	0.02%	0.35%	29	13,753,920	324,489	8,168,652	0.06%	0.91%
Mobile Harbor, AL Chickasaw Creek	240	27	0	0	0.00%	0.00%	267	32,184	0	0	0.00%	0.00%
Monroe Harbor, MI	199	63	31	31	0.08%	0.04%	205	345,359	270,112	270,112	0.05%	0.03%
Morehead City Hbr, NC	91	392	31	31	0.08%	0.04%	84	3,369,806	800,246	800,246	0.14%	0.09%
Morrisville, PA	102	327	323	323	0.82%	0.44%	67	4,322,972	4,312,129	4,312,129	0.74%	0.48%
Muskegon Harbor, MI	165	104	78	78	0.20%	0.11%	183	557,038	462,773	462,773	0.08%	0.05%
New Bedford & Fairhaven Hbr, MA	189	68	10	10	0.03%	0.01%	244	110,711	96,728	96,728	0.02%	0.01%
New Haven, CT Main Harbor	116	262	164	164	0.42%	0.22%	137	1,400,058	1,080,889	1,080,889	0.18%	0.12%
New London Harbor, CT	300	3	0	0	0.00%	0.00%	266	37,491	0	0	0.00%	0.00%
New Orleans, LA, Miles 88 Thru 106	13	4,614	18	482	0.05%	0.65%	6	43,020,221	478,218	15,771,850	0.08%	1.75%
New York & New Jersey Channels Main Ship Chan To Smith Creek NJ	175	94	70	70	0.18%	0.09%	141	1,319,668	1,214,009	1,214,009	0.21%	0.14%
New York & New Jersey Channels Piles Creek/to Kill Van Kull Exc Channels South/of Shooters Island	31	2,011	41	1,441	0.10%	1.95%	25	14,871,314	1,611,471	13,911,118	0.28%	1.55%

Appendix B-2
Analysis of Port Level Constraints, Year 2010

Port Name/Location Name	Relative Call Rank	Number of calls	Constrained Calls with Projects	Constrained Calls without Projects	Percent of Total Constrained Calls with Projects	Percent of Total Constrained Calls without Projects	Relative Tonnage Rank	Number of tons	Constrained tons with projects	Constrained tons without projects	Percent of Total Constrained Tons with Projects	Percent of Total Constrained Tons without Projects
New York & New Jersey Channels Smith Creek To Piles Creek NJ	119	246	196	196	0.50%	0.27%	114	2,123,955	1,970,988	1,970,988	0.34%	0.22%
New York & New Jersey Channels/Housman Avenue To St George S I	99	341	5	126	0.01%	0.17%	98	2,939,477	146,980	1,811,136	0.03%	0.20%
Newark Bay NJ Offshore Connecting Channel/between Port Newark And Port Elizabeth/branch Channels	143	162	5	86	0.01%	0.12%	118	1,927,931	128,575	1,242,756	0.02%	0.14%
Newark Bay NJ Port Newark Branch Channel	62	843	0	155	0.00%	0.21%	94	3,057,155	0	1,559,265	0.00%	0.17%
Newark Bay NJ-port Elizabeth Branch Channel	8	6,678	10	4,652	0.03%	6.31%	11	30,311,845	275,133	25,199,494	0.05%	2.80%
Newport Bay Harbor, CA	212	51	51	51	0.13%	0.07%	245	105,643	105,643	105,643	0.02%	0.01%
Newport News , VA	35	1,675	45	55	0.11%	0.07%	42	7,303,690	1,724,280	2,061,982	0.29%	0.23%
Niagara River New York Or Harriet	277	8	0	0	0.00%	0.00%	256	82,947	0	0	0.00%	0.00%
Nikishki, AK	130	198	67	67	0.17%	0.09%	104	2,528,082	1,246,417	1,246,417	0.21%	0.14%
Norfolk Harbor, VA Portsmouth VA	6	8,120	171	237	0.43%	0.32%	9	36,054,657	7,940,041	10,224,626	1.36%	1.14%
Norfolk Hbr, VA Eastern Br Eliz R	223	40	0	0	0.00%	0.00%	259	70,304	0	0	0.00%	0.00%
Norfolk Hbr, VA Southern Br Eliz R	118	253	0	0	0.00%	0.00%	107	2,431,243	0	0	0.00%	0.00%
Northeast, Cape Fear River NC	145	156	35	35	0.09%	0.05%	167	765,323	252,584	252,584	0.04%	0.03%
Northville L.I., NY	190	68	4	4	0.01%	0.01%	151	1,040,523	337,786	337,786	0.06%	0.04%
Oakland Harbor, CA Codes 000-380, 400-835, & 840-999	5	10,053	4	6,713	0.01%	9.11%	18	21,816,623	159,321	16,649,400	0.03%	1.85%
Ogdensburg Harbor, NY	270	11	11	11	0.03%	0.01%	238	137,924	137,924	137,924	0.02%	0.02%
Olympia Harbor, WA	249	21	13	13	0.03%	0.02%	260	65,025	62,618	62,618	0.01%	0.01%

Appendix B-2
Analysis of Port Level Constraints, Year 2010

Port Name/Location Name	Relative Call Rank	Number of calls	Constrained Calls with Projects	Constrained Calls without Projects	Percent of Total Constrained Calls with Projects	Percent of Total Constrained Calls without Projects	Relative Tonnage Rank	Number of tons	Constrained tons with projects	Constrained tons without projects	Percent of Total Constrained Tons with Projects	Percent of Total Constrained Tons without Projects
Oregon Slough Oregon And Bay, OR	32	2,005	1,282	1,282	3.26%	1.74%	50	5,754,582	4,702,192	4,702,192	0.80%	0.52%
Oswego Harbor, NY	154	135	21	21	0.05%	0.03%	168	742,735	157,836	157,836	0.03%	0.02%
Palm Beach Harbor, FL	19	3,975	137	137	0.35%	0.19%	120	1,906,777	375,041	375,041	0.06%	0.04%
Panama City Harbor, FL	89	411	162	162	0.41%	0.22%	174	650,908	293,995	293,995	0.05%	0.03%
Pascagoula Hbr, MS	126	205	3	7	0.01%	0.01%	188	478,292	74	25,894	0.00%	0.00%
Paulsboro, NJ	97	350	246	251	0.63%	0.34%	36	10,333,485	9,644,973	9,701,311	1.65%	1.08%
Penobscot River, ME	215	48	39	39	0.10%	0.05%	207	319,936	274,197	274,197	0.05%	0.03%
Pensacola Hbr, FL	147	152	19	19	0.05%	0.03%	193	451,923	139,892	139,892	0.02%	0.02%
Petty Island NJ	282	7	0	0	0.00%	0.00%	292	1,905	0	0	0.00%	0.00%
Philadelphia, PA On Delaware River/Allegheny Ave To Poquessing Creek	56	939	203	203	0.52%	0.28%	121	1,886,518	480,746	480,746	0.08%	0.05%
Piscataqua River, NH	77	503	354	354	0.90%	0.48%	73	4,057,724	3,543,409	3,543,409	0.60%	0.39%
Pittsburg, CA	168	101	95	95	0.24%	0.13%	132	1,503,504	1,479,504	1,479,504	0.25%	0.16%
Plymouth Harbor, MA	267	12	8	8	0.02%	0.01%	252	88,818	88,399	88,399	0.02%	0.01%
Ponce Harbor, PR	58	920	339	339	0.86%	0.46%	95	3,009,708	2,074,391	2,074,391	0.35%	0.23%
Port Angeles Harbor, WA	132	195	12	12	0.03%	0.02%	184	546,577	169,123	169,123	0.03%	0.02%
Port Arthur, TX	70	649	205	205	0.52%	0.28%	46	6,400,455	3,529,101	3,529,101	0.60%	0.39%
Port Dolomite, MI	231	33	33	33	0.08%	0.04%	209	304,697	304,698	304,698	0.05%	0.03%
Port Everglades Hbr, FL	4	10,898	501	501	1.27%	0.68%	23	16,531,975	2,856,590	2,856,590	0.49%	0.32%
Port Hueneme, CA	43	1,379	242	242	0.61%	0.33%	109	2,342,305	371,983	371,983	0.06%	0.04%
Port Huron, MI	286	6	6	6	0.02%	0.01%	271	24,333	24,333	24,333	0.00%	0.00%
Port Inland, MI	188	69	69	69	0.18%	0.09%	173	670,159	670,160	670,160	0.11%	0.07%
Port Manatee, FL	66	747	83	83	0.21%	0.11%	76	3,850,611	1,725,612	1,725,612	0.29%	0.19%
Port Royal, SC	149	142	58	58	0.15%	0.08%	179	613,538	353,681	353,681	0.06%	0.04%
Portland Harbor, Fore River, ME	200	62	41	41	0.10%	0.06%	170	684,821	632,770	632,770	0.11%	0.07%
Portland Harbor, ME	46	1,233	833	833	2.12%	1.13%	13	29,509,737	26,631,515	26,631,515	4.55%	2.96%
Portland, OR	33	1,856	458	458	1.16%	0.62%	22	18,684,372	7,915,619	7,915,619	1.35%	0.88%

Appendix B-2
Analysis of Port Level Constraints, Year 2010

Port Name/Location Name	Relative Call Rank	Number of calls	Constrained Calls with Projects	Constrained Calls without Projects	Percent of Total Constrained Calls with Projects	Percent of Total Constrained Calls without Projects	Relative Tonnage Rank	Number of tons	Constrained tons with projects	Constrained tons without projects	Percent of Total Constrained Tons with Projects	Percent of Total Constrained Tons without Projects
Portsmouth Hbr, NH	185	71	37	37	0.09%	0.05%	186	538,994	417,214	417,214	0.07%	0.05%
Potomac River Below Washington DC/mouth To Giesboro Point	268	12	12	12	0.03%	0.02%	234	165,036	165,036	165,036	0.03%	0.02%
Presque Isle Harbor, MI	88	414	414	414	1.05%	0.56%	89	3,194,307	3,194,308	3,194,308	0.55%	0.36%
Providence River and Harbor, RI	78	463	96	96	0.24%	0.13%	68	4,320,363	1,168,897	1,168,897	0.20%	0.13%
Raritan River NJ Main Channel/raritan Bay To Ostrandrs Dock/Keasby NJ	256	17	15	15	0.04%	0.02%	268	31,762	28,553	28,553	0.00%	0.00%
Redwood City Hbr, CA	173	95	86	86	0.22%	0.12%	129	1,572,434	1,523,283	1,523,283	0.26%	0.17%
Rensselaer, NY	247	23	23	23	0.06%	0.03%	213	281,692	281,692	281,692	0.05%	0.03%
Revillagigedo Channel	246	24	10	10	0.03%	0.01%	224	220,788	88,065	88,065	0.02%	0.01%
Richmond Harbor, CA Outer Harbor, Codes 000-699	63	842	178	237	0.45%	0.32%	33	12,163,576	7,111,143	8,396,531	1.21%	0.93%
Sabine, Pass Harbor, TX	235	32	0	0	0.00%	0.00%	290	2,165	0	0	0.00%	0.00%
Saginaw, MI	156	129	121	121	0.31%	0.16%	164	802,019	774,329	774,329	0.13%	0.09%
Salem Harbor, MA	209	52	52	52	0.13%	0.07%	154	1,016,465	1,016,465	1,016,465	0.17%	0.11%
Salem River, NJ	107	311	293	293	0.74%	0.40%	222	221,127	220,325	220,325	0.04%	0.02%
San Diego Harbor, CA	26	2,302	223	223	0.57%	0.30%	56	5,238,834	2,475,748	2,475,748	0.42%	0.28%
San Francisco Hbr, CA	51	1,138	147	147	0.37%	0.20%	65	4,574,244	2,884,098	2,884,098	0.49%	0.32%
San Juan Hbr, PR	11	5,622	252	252	0.64%	0.34%	40	7,884,364	1,879,170	1,879,170	0.32%	0.21%
San Pablo Bay & Mare I Strait, CA	160	122	22	22	0.06%	0.03%	142	1,309,259	652,991	652,991	0.11%	0.07%
Sandusky Harbor, OH	127	202	202	202	0.51%	0.27%	112	2,219,389	2,219,389	2,219,389	0.38%	0.25%
Sault Ste Marie, MI	291	5	5	5	0.01%	0.01%	275	20,226	20,226	20,226	0.00%	0.00%
Savannah Harbor, GA	7	6,944	442	2,830	1.12%	3.84%	15	26,960,939	2,546,666	14,173,593	0.43%	1.58%
Schuykill River Phila, PA Project	166	104	69	69	0.18%	0.09%	203	356,214	233,467	233,467	0.04%	0.03%
Searspport Hbr, Me	121	224	139	139	0.35%	0.19%	144	1,213,197	861,498	861,498	0.15%	0.10%
Seattle Harbor, WA Duwamish River	41	1,453	152	152	0.39%	0.21%	66	4,483,664	988,253	988,253	0.17%	0.11%

Appendix B-2
Analysis of Port Level Constraints, Year 2010

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Seattle Harbor, WA East Waterway	20	3,425	0	2,525	0.00%	3.43%	35	10,740,372	0	9,075,076	0.00%	1.01%
Seattle Harbor, WA Elliott Bay	53	1,078	719	719	1.83%	0.98%	44	6,903,913	6,480,438	6,480,438	1.11%	0.72%
Seattle Harbor, WA Harbor Island	106	313	0	0	0.00%	0.00%	187	496,695	0	0	0.00%	0.00%
Seattle Harbor, WA West Waterway	61	858	737	737	1.87%	1.00%	54	5,542,976	5,476,620	5,476,620	0.94%	0.61%
Seattle Harbor, WA/Richmond Beach To Edmonds	292	5	2	2	0.01%	0.00%	274	21,427	12,363	12,363	0.00%	0.00%
Seward, AK	219	45	45	45	0.11%	0.06%	146	1,146,267	1,146,267	1,146,267	0.20%	0.13%
Silver Bay, MN	301	2	2	2	0.01%	0.00%	281	7,727	7,727	7,727	0.00%	0.00%
Skagway Harbor, AK	184	73	29	29	0.07%	0.04%	246	104,204	41,416	41,416	0.01%	0.00%
St Ignace, MI	287	6	0	0	0.00%	0.00%	265	38,770	0	0	0.00%	0.00%
St., Paul Is., AK (Pribilof Island-coast)	302	2	0	0	0.00%	0.00%	294	1,151	0	0	0.00%	0.00%
Steilacoom, WA	257	17	0	0	0.00%	0.00%	255	84,140	0	0	0.00%	0.00%
Stockton, CA	90	407	310	310	0.79%	0.42%	81	3,443,631	3,071,787	3,071,787	0.52%	0.34%
Stoneport, MI	216	48	45	45	0.11%	0.06%	200	387,623	375,608	375,608	0.06%	0.04%
Suisun Bay Channel, CA	253	18	11	11	0.03%	0.01%	231	182,488	120,094	120,094	0.02%	0.01%
Superior, WI	82	451	408	408	1.04%	0.55%	58	4,926,565	4,469,173	4,469,173	0.76%	0.50%
Tacoma Harbor, WA	15	4,433	1,252	2,568	3.18%	3.48%	17	22,860,669	7,550,613	16,546,629	1.29%	1.84%
Tacoma Harbor, WA Middle Waterway	161	122	0	0	0.00%	0.00%	226	206,735	0	0	0.00%	0.00%
Tampa Harbor, FL	25	2,519	100	100	0.25%	0.14%	20	19,961,753	4,015,082	4,015,082	0.69%	0.45%
Texas City, TX	34	1,800	231	1,097	0.59%	1.49%	8	38,669,704	8,883,659	34,940,385	1.52%	3.89%
Thru 04470 Philadelphia, PA On Delaware Rv/Hog Island To Allegheny Ave	21	3,290	345	539	0.88%	0.73%	10	33,664,484	24,706,373	26,864,898	4.22%	2.99%
Thru 66540 Giww Galveston To Corpus Christi	124	209	88	88	0.22%	0.12%	123	1,834,094	1,359,680	1,359,680	0.23%	0.15%

Appendix B-2
Analysis of Port Level Constraints, Year 2010

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Thru 77647 Port Of Chicago Il/calumet Harbor, & River Il & In-south Chicago	85	441	346	346	0.88%	0.47%	78	3,655,985	3,334,331	3,334,331	0.57%	0.37%
Togiak, AK (Bristol Bay)	297	4	0	0	0.00%	0.00%	297	700	0	0	0.00%	0.00%
Toledo, OH	60	867	584	584	1.48%	0.79%	41	7,603,756	6,526,623	6,526,623	1.11%	0.73%
Tullytown, PA	227	37	23	23	0.06%	0.03%	172	672,675	450,310	450,310	0.08%	0.05%
Unak Bay & Island, AK/(Iliuliuk & Dutch Hbr.)	104	324	148	148	0.38%	0.20%	201	365,719	112,172	112,172	0.02%	0.01%
Upper Bay, NY Narrows To/Municipal Ferry Dock St Geo Si/exc Bay Ridge Red Hook & Buttermilk Channels	38	1,609	150	482	0.38%	0.65%	16	25,082,333	5,256,722	13,795,273	0.90%	1.53%
Upper Bay, NY/bayonne NJ To Claremont NJ/bay Ridge Flats And Bedloes Is	29	2,098	2	143	0.01%	0.19%	47	6,323,412	86,550	927,927	0.01%	0.10%
Valdez, AK	241	27	0	0	0.00%	0.00%	152	1,032,888	0	0	0.00%	0.00%
Vancouver, WA	67	721	176	176	0.45%	0.24%	52	5,571,092	2,556,647	2,556,647	0.44%	0.28%
Wando River, SC	16	4,264	1,380	3,778	3.51%	5.12%	24	15,184,660	6,809,917	13,875,249	1.16%	1.54%
Waukegan, IL	271	11	0	0	0.00%	0.00%	273	22,207	0	0	0.00%	0.00%
Wauna, OR	229	35	0	0	0.00%	0.00%	264	39,718	0	0	0.00%	0.00%
Whittier, AK	194	65	0	0	0.00%	0.00%	263	43,870	0	0	0.00%	0.00%
Wilmington Harbor, NC	40	1,545	473	837	1.20%	1.14%	60	4,907,887	1,712,259	3,456,321	0.29%	0.38%
Wilmington Harbor, Southport NC	203	60	0	17	0.00%	0.02%	229	190,056	0	67,052	0.00%	0.01%
Yolo Port District, CA	163	117	85	85	0.22%	0.12%	160	877,799	695,362	695,362	0.12%	0.08%
York River, VA	169	99	99	99	0.25%	0.13%	131	1,535,322	1,535,323	1,535,323	0.26%	0.17%

Appendix B-3
Analysis of Port Level Constraints, Year 2020

Port Name/Location Name	Relative Call Rank	Number of calls	Constrained Calls with Projects	Constrained Calls without Projects	Percent of Total Constrained Calls with Projects	Percent of Total Constrained Calls without Projects	Relative Tonnage Rank	Number of tons	Constrained tons with projects	Constrained tons without projects	Percent of Total Constrained Tons with Projects	Percent of Total Constrained Tons without Projects
Adak Island, AK (coast)	272	10	0	0	0.00%	0.00%	288	3,067	0	0	0.00%	0.00%
Afognak Island, AK	248	21	0	0	0.00%	0.00%	250	97,752	0	0	0.00%	0.00%
Alabaster, MI	220	42	42	42	0.11%	0.06%	214	280,251	280,252	280,252	0.05%	0.03%
Albany, NY	138	169	77	77	0.20%	0.10%	171	682,994	538,499	538,499	0.09%	0.06%
Alpena, MI	230	34	8	8	0.02%	0.01%	235	151,752	39,622	39,622	0.01%	0.00%
Anacortes Harbor, WA	83	446	76	76	0.19%	0.10%	106	2,463,573	1,125,909	1,125,909	0.19%	0.13%
Anchorage, AK	218	45	10	10	0.03%	0.01%	198	400,809	16,946	16,946	0.00%	0.00%
Arecibo Harbor, PR	264	14	0	0	0.00%	0.00%	282	7,632	0	0	0.00%	0.00%
Asharoken, L I	273	10	0	0	0.00%	0.00%	230	185,569	0	0	0.00%	0.00%
Ashtabula Harbor, OH	128	199	190	190	0.48%	0.26%	82	3,401,778	3,308,372	3,308,372	0.56%	0.37%
Astoria, OR	202	60	4	29	0.01%	0.04%	176	624,077	122,784	412,006	0.02%	0.05%
Atchafalaya R Morgan Cty To Gulf	278	7	5	5	0.01%	0.01%	284	5,524	5,260	5,260	0.00%	0.00%
Baltimore Hbr and Channels, MD	12	5,249	93	93	0.24%	0.13%	12	30,100,484	3,601,779	3,601,779	0.61%	0.40%
Bangor Township, MI	298	3	3	3	0.01%	0.00%	285	4,180	4,180	4,180	0.00%	0.00%
Barbers Point Channel Oahu	144	157	71	89	0.18%	0.12%	75	4,021,751	2,838,856	3,277,926	0.48%	0.36%
Baton Rouge, LA Miles 226 Thru 235	65	760	0	239	0.00%	0.32%	34	11,728,658	0	7,286,642	0.00%	0.81%
Bay Ridge Channel, NY	252	18	14	14	0.04%	0.02%	272	22,229	16,848	16,848	0.00%	0.00%
Bayou Casotte, MS	54	1,044	723	723	1.84%	0.98%	19	20,343,191	19,784,299	19,784,299	3.38%	2.20%
Bayou La Batre, AL	208	52	52	52	0.13%	0.07%	291	1,934	1,934	1,934	0.00%	0.00%
Beaumont, TX	24	2,738	2,024	2,024	5.14%	2.75%	3	75,503,397	70,837,460	70,837,460	12.09%	7.88%
Bellingham Bay & Harbor, WA Main Channel	283	6	0	0	0.00%	0.00%	286	4,072	0	0	0.00%	0.00%
Bellingham Bay & Harbor, WA/Squalicum Creek Waterway	293	4	0	0	0.00%	0.00%	299	434	0	0	0.00%	0.00%
Bellingham Bay & Harbor, WA/Whatcom Creek Waterway	140	164	88	88	0.22%	0.12%	211	291,673	168,525	168,525	0.03%	0.02%
Biloxi Harbor, MS	279	7	0	0	0.00%	0.00%	287	3,788	0	0	0.00%	0.00%

Appendix B-3
Analysis of Port Level Constraints, Year 2020

Port Name/Location Name	Relative Call Rank	Number of calls	Constrained Calls with Projects	Constrained Calls without Projects	Percent of Total Constrained Calls with Projects	Percent of Total Constrained Calls without Projects	Relative Tonnage Rank	Number of tons	Constrained tons with projects	Constrained tons without projects	Percent of Total Constrained Tons with Projects	Percent of Total Constrained Tons without Projects
Boston MA Island End River	108	310	60	60	0.15%	0.08%	108	2,424,943	718,701	718,701	0.12%	0.08%
Boston MA Town River	201	61	58	58	0.15%	0.08%	239	137,825	132,420	132,420	0.02%	0.01%
Boston, MA Chelsea River	80	459	283	283	0.72%	0.38%	62	4,764,128	3,236,436	3,236,436	0.55%	0.36%
Boston, MA Main Water Front	59	871	144	296	0.37%	0.40%	103	2,578,312	365,518	869,651	0.06%	0.10%
Boston, MA Mystic River	71	606	89	89	0.23%	0.12%	92	3,101,604	1,925,987	1,925,987	0.33%	0.21%
Boston, MA Weymouth Fore River	239	27	24	24	0.06%	0.03%	225	220,039	216,010	216,010	0.04%	0.02%
Bridgeport, CT Main Harbor	87	425	47	47	0.12%	0.06%	138	1,368,928	540,401	540,401	0.09%	0.06%
Brownsville Ship Channel, TX	72	593	223	223	0.57%	0.30%	105	2,486,990	1,654,784	1,654,784	0.28%	0.18%
Brunswick Hbr, GA	42	1,428	594	1,263	1.51%	1.71%	88	3,204,434	1,808,058	2,828,355	0.31%	0.31%
Buffalo Harbor, NY	177	90	35	35	0.09%	0.05%	192	456,637	287,648	287,648	0.05%	0.03%
Burlington, NJ	232	32	8	8	0.02%	0.01%	195	421,012	102,304	102,304	0.02%	0.01%
Burns Waterway Harbor, IN	115	264	236	236	0.60%	0.32%	115	2,053,202	2,020,430	2,020,430	0.34%	0.22%
Buttermilk Channel, NY	47	1,218	589	589	1.50%	0.80%	71	4,248,605	2,394,819	2,394,819	0.41%	0.27%
Calcasieu River and Pass Lake Charles, LA	109	308	166	166	0.42%	0.23%	48	6,298,389	5,736,242	5,736,242	0.98%	0.64%
Calcite, MI	133	190	182	182	0.46%	0.25%	125	1,784,720	1,780,275	1,780,275	0.30%	0.20%
Camden, NJ	49	1,206	8	92	0.02%	0.12%	93	3,064,952	179,542	550,376	0.03%	0.06%
Canaveral Harbor, FL	30	2,012	111	111	0.28%	0.15%	59	4,926,474	1,143,781	1,143,781	0.20%	0.13%
Carquinez Strait, CA	76	526	90	90	0.23%	0.12%	57	5,002,226	1,911,462	1,911,462	0.33%	0.21%
Catskill, NY	288	5	5	5	0.01%	0.01%	261	61,754	61,754	61,754	0.01%	0.01%
Cementon, NY	192	65	60	60	0.15%	0.08%	166	772,463	763,037	763,037	0.13%	0.08%
Charleston Ashley River, SC	262	15	11	11	0.03%	0.01%	220	226,250	202,906	202,906	0.03%	0.02%
Charleston Cooper River, SC	18	4,024	486	1,804	1.23%	2.45%	30	13,528,150	2,974,924	8,965,261	0.51%	1.00%
Charleston Shipyard River, SC	263	15	5	5	0.01%	0.01%	248	102,722	60,478	60,478	0.01%	0.01%
Charlevoix Michigan Ironton, MI	236	30	5	5	0.01%	0.01%	242	122,965	24,580	24,580	0.00%	0.00%

Appendix B-3
Analysis of Port Level Constraints, Year 2020

Port Name/Location Name	Relative Call Rank	Number of calls	Constrained Calls with Projects	Constrained Calls without Projects	Percent of Total Constrained Calls with Projects	Percent of Total Constrained Calls without Projects	Relative Tonnage Rank	Number of tons	Constrained tons with projects	Constrained tons without projects	Percent of Total Constrained Tons with Projects	Percent of Total Constrained Tons without Projects
Chesapeake Bay Open Waters	187	69	7	7	0.02%	0.01%	155	1,010,984	284,492	284,492	0.05%	0.03%
Chester, PA	222	40	24	24	0.06%	0.03%	153	1,018,586	947,540	947,540	0.16%	0.11%
Christina River Wilmington De	28	2,112	569	569	1.45%	0.77%	39	7,943,046	4,211,718	4,211,718	0.72%	0.47%
Claymont, DE	210	51	2	2	0.01%	0.00%	189	474,743	68,871	68,871	0.01%	0.01%
Cleveland Harbor, OH	68	707	443	443	1.13%	0.60%	80	3,473,001	2,374,366	2,374,366	0.41%	0.26%
Clinton Point, NY	294	4	4	4	0.01%	0.01%	277	16,977	16,977	16,977	0.00%	0.00%
Coeymans, NY	233	32	2	2	0.01%	0.00%	223	220,867	9,577	9,577	0.00%	0.00%
Conneaut Harbor, OH	112	302	229	229	0.58%	0.31%	85	3,356,026	3,174,240	3,174,240	0.54%	0.35%
Cooper River Above Charleston Hbr	237	30	0	0	0.00%	0.00%	206	321,917	0	0	0.00%	0.00%
Coos Bay, OR Inside Channel To/Millington, OR	157	128	104	104	0.26%	0.14%	149	1,058,434	984,532	984,532	0.17%	0.11%
Corpus Christi, TX	23	3,099	450	1,319	1.14%	1.79%	4	63,339,492	13,948,770	44,741,558	2.38%	4.98%
Dania Cut Off Canal, FL	36	1,648	186	186	0.47%	0.25%	241	130,100	23,177	23,177	0.00%	0.00%
Davisville, RI	195	64	60	60	0.15%	0.08%	254	87,032	86,244	86,244	0.01%	0.01%
Dearborn MI See Rouge Riv/Rouge River MI Dearborn MI	92	375	226	226	0.57%	0.31%	90	3,193,920	2,446,702	2,446,702	0.42%	0.27%
Delair, NJ	204	58	47	47	0.12%	0.06%	165	798,338	688,340	688,340	0.12%	0.08%
Delaware City, DE	150	141	78	99	0.20%	0.13%	83	3,381,714	3,136,135	3,200,619	0.54%	0.36%
Detroit, MI	73	588	368	368	0.94%	0.50%	96	2,970,875	2,449,959	2,449,959	0.42%	0.27%
Duluth, MN	94	357	276	276	0.70%	0.37%	64	4,642,373	4,203,180	4,203,180	0.72%	0.47%
Eagle Point Westville, NJ	114	267	123	143	0.31%	0.19%	38	8,197,351	7,315,461	7,485,960	1.25%	0.83%
East Pearl River, MS	75	528	20	20	0.05%	0.03%	219	229,779	9,783	9,783	0.00%	0.00%
East River NY Upper NY Bay To USN Shipyard	120	228	99	99	0.25%	0.13%	117	1,964,508	938,423	938,423	0.16%	0.10%
East River, NY/USN Shipyd, Excluding East Channel	155	130	49	49	0.12%	0.07%	150	1,049,075	516,099	516,099	0.09%	0.06%
Eastport Hbr, ME	39	1,565	37	37	0.09%	0.05%	196	412,880	199,510	199,510	0.03%	0.02%
Ecorse, MI	151	141	98	98	0.25%	0.13%	180	584,864	556,326	556,326	0.09%	0.06%

Appendix B-3
Analysis of Port Level Constraints, Year 2020

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Eddystone, PA	95	356	2	5	0.01%	0.01%	139	1,359,207	77,005	81,403	0.01%	0.01%
El Segundo, CA	101	336	139	139	0.35%	0.19%	37	8,243,030	5,552,266	5,552,266	0.95%	0.62%
Erie Harbor, PA	269	11	11	11	0.03%	0.01%	232	180,728	180,729	180,729	0.03%	0.02%
Essexville, MI	158	128	16	16	0.04%	0.02%	143	1,283,916	178,121	178,121	0.03%	0.02%
Everett Harbor, WA Outer Harbor	113	300	80	80	0.20%	0.11%	162	849,700	571,269	571,269	0.10%	0.06%
Fajardo Hbr, PR	146	154	77	77	0.20%	0.10%	130	1,570,411	1,544,976	1,544,976	0.26%	0.17%
Fall River Hbr, MA	164	106	48	48	0.12%	0.07%	157	975,593	728,052	728,052	0.12%	0.08%
False, Pass, AK (coast)	289	5	0	0	0.00%	0.00%	296	845	0	0	0.00%	0.00%
Fernandina, FL	55	988	49	49	0.12%	0.07%	169	707,093	71,294	71,294	0.01%	0.01%
Ferndale, WA	98	342	7	7	0.02%	0.01%	119	1,909,377	102,485	102,485	0.02%	0.01%
Fort Pierce Hbr, FL	103	324	21	21	0.05%	0.03%	258	79,113	16,078	16,078	0.00%	0.00%
Freeport Harbor, TX	27	2,176	587	587	1.49%	0.80%	14	27,236,776	21,101,089	21,101,089	3.60%	2.35%
Galveston Channel, TX	50	1,152	79	295	0.20%	0.40%	45	6,676,556	2,745,012	4,310,394	0.47%	0.48%
Gary, IN	254	17	15	15	0.04%	0.02%	210	298,153	285,571	285,571	0.05%	0.03%
Gloucester, NJ	52	1,123	0	39	0.00%	0.05%	136	1,405,671	0	83,559	0.00%	0.01%
Grand Haven Harbor, MI	186	70	70	70	0.18%	0.09%	178	616,328	616,327	616,327	0.11%	0.07%
Grays Harbor, & Chehalis River Wa/North Aberdeen And North Channel	213	49	38	38	0.10%	0.05%	253	87,328	64,554	64,554	0.01%	0.01%
Grays Hbr & Chehalis River, WA South Aberdeen	172	96	49	49	0.12%	0.07%	191	463,446	306,977	306,977	0.05%	0.03%
Grays Hbr & Chehalis River, WA Westhaven	258	16	0	0	0.00%	0.00%	300	191	0	0	0.00%	0.00%
Green Bay, WI	299	3	3	3	0.01%	0.00%	270	25,244	25,244	25,244	0.00%	0.00%
Guanica Hbr, PR	224	39	37	37	0.09%	0.05%	227	202,759	200,986	200,986	0.03%	0.02%
Guayanilla Hbr, PR	79	462	213	213	0.54%	0.29%	70	4,280,214	3,410,460	3,410,460	0.58%	0.38%
Gulf Outlet Miles 70-73	152	141	54	54	0.14%	0.07%	128	1,613,238	1,046,652	1,046,652	0.18%	0.12%
Gulf Via Tiger, Pass	290	5	0	0	0.00%	0.00%	302	4	0	0	0.00%	0.00%
Gulfport Hbr & Ship Is Pass, MS	22	3,260	366	366	0.93%	0.50%	63	4,677,363	629,089	629,089	0.11%	0.07%

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Hackensack River NJ/upper End Of Newark Bay Channel/to Koppers Co Bulkhead Kearny NJ	275	8	0	0	0.00%	0.00%	262	57,650	0	0	0.00%	0.00%
Homer, AK	193	65	47	47	0.12%	0.06%	218	251,446	141,460	141,460	0.02%	0.02%
Honolulu Hbr, Oahu, HI	44	1,354	79	79	0.20%	0.11%	51	5,604,796	3,268,466	3,268,466	0.56%	0.36%
Hoonah, AK	295	4	4	4	0.01%	0.01%	293	1,893	1,893	1,893	0.00%	0.00%
Houston Ship Channel, TX	1	15,398	2,571	5,208	6.53%	7.06%	1	165,583,499	82,719,684	116,234,812	14.12%	12.93%
Hudson River Channel, NY & NJ/NY Shore W 40 To W 59 St, NY	244	24	5	5	0.01%	0.01%	276	16,990	3,993	3,993	0.00%	0.00%
Hudson River, NY & NJ Yonkers NY	259	16	2	2	0.01%	0.00%	249	100,409	22,852	22,852	0.00%	0.00%
Humboldt Harbor, AK (coast)	296	4	4	4	0.01%	0.01%	289	2,873	2,873	2,873	0.00%	0.00%
Humboldt Hbr & Bay, CA	139	168	120	120	0.30%	0.16%	190	469,212	400,524	400,524	0.07%	0.04%
Huron Harbor, OH	276	8	8	8	0.02%	0.01%	257	82,297	82,297	82,297	0.01%	0.01%
Icw Port Everglades Harbor, Fl Miles 175 Thru 183	242	25	0	0	0.00%	0.00%	301	57	0	0	0.00%	0.00%
Icw, PAIm Beach Harbor, Fl Miles 223 Thru 230	280	7	0	0	0.00%	0.00%	295	1,077	0	0	0.00%	0.00%
Icy Bay, AK	234	32	0	0	0.00%	0.00%	236	146,798	0	0	0.00%	0.00%
Indiana Harbor Indiana East Chicago, IN	196	64	44	44	0.11%	0.06%	181	584,099	532,972	532,972	0.09%	0.06%
Inner Harbor Navigation Canal, LA	37	1,644	860	860	2.19%	1.17%	69	4,288,275	2,423,588	2,423,588	0.41%	0.27%
Jacksonville Harbor, FL	14	4,602	881	957	2.24%	1.30%	32	13,104,211	7,138,957	7,919,710	1.22%	0.88%
James River & Port of Hopewell, VA	205	58	19	19	0.05%	0.03%	215	274,266	169,491	169,491	0.03%	0.02%
James River, VA	105	314	104	104	0.26%	0.14%	148	1,061,076	411,478	411,478	0.07%	0.05%
Jobos Hbr, PR	135	188	156	156	0.40%	0.21%	124	1,828,185	1,767,261	1,767,261	0.30%	0.20%
Juneau Gastineau Channel, AK	123	214	7	7	0.02%	0.01%	228	195,958	11,542	11,542	0.00%	0.00%

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Kalama, WA	86	430	65	271	0.17%	0.37%	49	5,858,344	1,645,963	4,679,376	0.28%	0.52%
Ketchikan, AK (Tongass Narrows)	250	20	16	16	0.04%	0.02%	243	117,245	102,288	102,288	0.02%	0.01%
Key West Hbr, FL	266	12	0	0	0.00%	0.00%	298	443	0	0	0.00%	0.00%
Kivilina, AK (coast)	179	87	0	0	0.00%	0.00%	126	1,747,814	0	0	0.00%	0.00%
Kodiak Island, AK (coast)	265	13	0	0	0.00%	0.00%	280	10,064	0	0	0.00%	0.00%
Lake Calumet, IL	211	51	36	36	0.09%	0.05%	233	171,354	130,391	130,391	0.02%	0.01%
Lake Washington Ship Canal, WA/Ballard	284	6	6	6	0.02%	0.01%	278	11,828	11,828	11,828	0.00%	0.00%
Little Sandy River, OR	285	6	2	2	0.01%	0.00%	283	5,846	2,620	2,620	0.00%	0.00%
Long Beach Harbor, CA	9	6,080	9	110	0.02%	0.15%	5	62,367,682	956,878	5,460,388	0.16%	0.61%
Long Beach Outer Harbor, CA	10	5,897	0	0	0.00%	0.00%	7	41,249,118	0	0	0.00%	0.00%
Longview (Mt. Coffin)	174	94	0	73	0.00%	0.10%	135	1,455,240	0	1,259,725	0.00%	0.14%
Longview, WA	84	443	48	146	0.12%	0.20%	86	3,284,278	499,613	1,500,413	0.09%	0.17%
Lorain Harbor, OH	228	36	34	34	0.09%	0.05%	216	268,935	246,208	246,208	0.04%	0.03%
Los Angeles Harbor, CA	3	11,666	0	0	0.00%	0.00%	2	88,455,294	0	0	0.00%	0.00%
Lower Delaware Bay, DE	111	305	269	272	0.68%	0.37%	31	13,179,052	12,851,695	12,871,271	2.19%	1.43%
Lower Miss River Mile 108	134	189	0	26	0.00%	0.04%	134	1,466,208	0	718,830	0.00%	0.08%
Lower Miss River Mile 116	255	17	0	2	0.00%	0.00%	240	135,908	0	93,878	0.00%	0.01%
Lower Miss River Mile 118	81	453	18	70	0.05%	0.09%	72	4,202,638	670,000	1,774,392	0.11%	0.20%
Lower Miss River Mile 120	48	1,212	20	358	0.05%	0.49%	21	19,752,646	798,060	8,816,546	0.14%	0.98%
Lower Miss River Mile 125	214	49	0	19	0.00%	0.03%	145	1,170,734	0	764,386	0.00%	0.09%
Lower Miss River Mile 126	206	53	0	6	0.00%	0.01%	158	933,687	0	158,982	0.00%	0.02%
Lower Miss River Mile 127	197	63	0	2	0.00%	0.00%	197	406,096	0	41,018	0.00%	0.00%
Lower Miss River Mile 128	129	198	0	59	0.00%	0.08%	101	2,682,203	0	1,538,838	0.00%	0.17%
Lower Miss River Mile 132	183	74	0	2	0.00%	0.00%	251	95,236	0	2,106	0.00%	0.00%
Lower Miss River Mile 138	167	102	0	42	0.00%	0.06%	111	2,313,035	0	1,354,083	0.00%	0.15%
Lower Miss River Mile 139	64	837	0	238	0.00%	0.32%	28	13,828,537	0	6,926,487	0.00%	0.77%
Lower Miss River Mile 140	170	97	19	90	0.05%	0.12%	100	2,711,423	639,537	2,597,282	0.11%	0.29%
Lower Miss River Mile 144	182	79	0	11	0.00%	0.01%	159	886,062	0	141,384	0.00%	0.02%
Lower Miss River Mile 145	191	66	0	37	0.00%	0.05%	147	1,139,191	0	842,037	0.00%	0.09%

Appendix B-3
Analysis of Port Level Constraints, Year 2020

Port Name/Location Name	Relative Call Rank	Number of calls	Constrained Calls with Projects	Constrained Calls without Projects	Percent of Total Constrained Calls with Projects	Percent of Total Constrained Calls without Projects	Relative Tonnage Rank	Number of tons	Constrained tons with projects	Constrained tons without projects	Percent of Total Constrained Tons with Projects	Percent of Total Constrained Tons without Projects
Lower Miss River Mile 146	245	24	0	0	0.00%	0.00%	247	103,209	0	0	0.00%	0.00%
Lower Miss River Mile 148	176	92	2	71	0.01%	0.10%	97	2,968,801	82,100	2,609,684	0.01%	0.29%
Lower Miss River Mile 150	136	187	0	15	0.00%	0.02%	116	1,981,765	0	439,311	0.00%	0.05%
Lower Miss River Mile 158	93	370	2	15	0.01%	0.02%	99	2,854,496	19,799	251,655	0.00%	0.03%
Lower Miss River Mile 159	137	178	7	141	0.02%	0.19%	55	5,531,153	243,691	5,039,710	0.04%	0.56%
Lower Miss River Mile 160	243	25	0	22	0.00%	0.03%	163	818,078	0	781,492	0.00%	0.09%
Lower Miss River Mile 161	225	38	0	0	0.00%	0.00%	217	261,081	0	0	0.00%	0.00%
Lower Miss River Mile 166	122	218	0	35	0.00%	0.05%	102	2,668,994	0	1,151,697	0.00%	0.13%
Lower Miss River Mile 167	142	162	7	23	0.02%	0.03%	122	1,835,753	83,329	495,960	0.01%	0.06%
Lower Miss River Mile 168	207	53	0	43	0.00%	0.06%	127	1,723,287	0	1,573,173	0.00%	0.17%
Lower Miss River Mile 169	125	208	0	64	0.00%	0.09%	91	3,119,587	0	1,895,949	0.00%	0.21%
Lower Miss River Mile 173	238	29	0	0	0.00%	0.00%	208	315,066	0	0	0.00%	0.00%
Lower Miss River Mile 183	159	127	0	0	0.00%	0.00%	199	392,402	0	0	0.00%	0.00%
Lower Miss River Mile 187	226	37	0	7	0.00%	0.01%	202	361,880	0	160,036	0.00%	0.02%
Lower Miss River Mile 2	251	19	2	2	0.01%	0.00%	221	223,746	54,053	54,053	0.01%	0.01%
Lower Miss River Mile 200	274	10	0	0	0.00%	0.00%	279	11,350	0	0	0.00%	0.00%
Lower Miss River Mile 203	221	41	0	4	0.00%	0.01%	204	355,597	0	90,144	0.00%	0.01%
Lower Miss River Mile 205	153	140	0	0	0.00%	0.00%	185	544,662	0	0	0.00%	0.00%
Lower Miss River Mile 210	162	121	2	5	0.01%	0.01%	156	1,004,945	90,587	129,227	0.02%	0.01%
Lower Miss River Mile 27	171	97	9	97	0.02%	0.13%	79	3,539,591	324,853	3,539,592	0.06%	0.39%
Lower Miss River Mile 53	217	47	0	17	0.00%	0.02%	161	855,632	0	446,108	0.00%	0.05%
Lower Miss River Mile 55	131	195	0	71	0.00%	0.10%	74	4,030,726	0	2,466,442	0.00%	0.27%
Lower Miss River Mile 57	148	150	0	63	0.00%	0.09%	87	3,252,872	0	2,032,457	0.00%	0.23%
Lower Miss River Mile 61	96	352	0	115	0.00%	0.16%	53	5,556,023	0	3,181,747	0.00%	0.35%
Lower Miss River Mile 63	260	16	0	12	0.00%	0.02%	194	429,923	0	384,876	0.00%	0.04%
Lower Miss River Mile 72	110	308	9	112	0.02%	0.15%	61	4,798,944	385,877	3,322,504	0.07%	0.37%
Lower Miss River Mile 83	100	338	2	70	0.01%	0.09%	77	3,664,300	83,199	1,630,326	0.01%	0.18%
Lower Miss River Mile 87	181	82	0	61	0.00%	0.08%	110	2,334,057	0	2,108,767	0.00%	0.23%
Ludington Harbor, MI	198	63	26	26	0.07%	0.04%	212	284,558	143,192	143,192	0.02%	0.02%
Manistee Harbor, MI	281	7	0	0	0.00%	0.00%	269	30,016	0	0	0.00%	0.00%
Marblehead, OH	180	83	83	83	0.21%	0.11%	175	646,776	646,776	646,776	0.11%	0.07%

Appendix B-3
Analysis of Port Level Constraints, Year 2020

Port Name/Location Name	Relative Call Rank	Number of calls	Constrained Calls with Projects	Constrained Calls without Projects	Percent of Total Constrained Calls with Projects	Percent of Total Constrained Calls without Projects	Relative Tonnage Rank	Number of tons	Constrained tons with projects	Constrained tons without projects	Percent of Total Constrained Tons with Projects	Percent of Total Constrained Tons without Projects
Marcus Hook, PA	74	530	303	334	0.77%	0.45%	26	14,092,384	12,905,692	13,048,710	2.20%	1.45%
Marine City, MI	261	16	16	16	0.04%	0.02%	237	146,790	146,789	146,789	0.03%	0.02%
Marysville, MI	178	89	71	71	0.18%	0.10%	177	622,072	596,609	596,609	0.10%	0.07%
Matagorda Ship Channel, TX	69	686	455	455	1.16%	0.62%	43	7,017,874	5,886,058	5,886,058	1.00%	0.65%
Mayaguez Hbr, PR	57	932	28	28	0.07%	0.04%	182	572,491	116,185	116,185	0.02%	0.01%
Miami Harbor, FL	2	12,052	71	1,104	0.18%	1.50%	27	13,843,290	29,476	3,224,369	0.01%	0.36%
Miami River, FL	17	4,248	2,422	2,422	6.15%	3.29%	140	1,339,513	1,007,720	1,007,720	0.17%	0.11%
Michoud Canal, LA	141	163	90	90	0.23%	0.12%	113	2,188,312	1,717,921	1,717,921	0.29%	0.19%
Milwaukee, WI	117	260	212	212	0.54%	0.29%	133	1,501,021	1,386,314	1,386,314	0.24%	0.15%
Mobile Harbor AL	45	1,254	8	259	0.02%	0.35%	29	13,753,920	324,489	8,168,652	0.06%	0.91%
Mobile Harbor, AL Chickasaw Creek	240	27	0	0	0.00%	0.00%	267	32,184	0	0	0.00%	0.00%
Monroe Harbor, MI	199	63	31	31	0.08%	0.04%	205	345,359	270,112	270,112	0.05%	0.03%
Morehead City Hbr, NC	91	392	31	31	0.08%	0.04%	84	3,369,806	800,246	800,246	0.14%	0.09%
Morrisville, PA	102	327	323	323	0.82%	0.44%	67	4,322,972	4,312,129	4,312,129	0.74%	0.48%
Muskegon Harbor, MI	165	104	78	78	0.20%	0.11%	183	557,038	462,773	462,773	0.08%	0.05%
New Bedford & Fairhaven Hbr, MA	189	68	10	10	0.03%	0.01%	244	110,711	96,728	96,728	0.02%	0.01%
New Haven, CT Main Harbor	116	262	164	164	0.42%	0.22%	137	1,400,058	1,080,889	1,080,889	0.18%	0.12%
New London Harbor, CT	300	3	0	0	0.00%	0.00%	266	37,491	0	0	0.00%	0.00%
New Orleans, LA, Miles 88 Thru 106	13	4,614	18	482	0.05%	0.65%	6	43,020,221	478,218	15,771,850	0.08%	1.75%
New York & New Jersey Channels Main Ship Chan To Smith Creek NJ	175	94	70	70	0.18%	0.09%	141	1,319,668	1,214,009	1,214,009	0.21%	0.14%
New York & New Jersey Channels Piles Creek/to Kill Van Kull Exc Channels South/of Shooters Island	31	2,011	41	1,441	0.10%	1.95%	25	14,871,314	1,611,471	13,911,118	0.28%	1.55%

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New York & New Jersey Channels Smith Creek To Piles Creek NJ	119	246	196	196	0.50%	0.27%	114	2,123,955	1,970,988	1,970,988	0.34%	0.22%
New York & New Jersey Channels/Housman Avenue To St George S I	99	341	5	126	0.01%	0.17%	98	2,939,477	146,980	1,811,136	0.03%	0.20%
Newark Bay NJ Offshore Connecting Channel/between Port Newark And Port Elizabeth/branch Channels	143	162	5	86	0.01%	0.12%	118	1,927,931	128,575	1,242,756	0.02%	0.14%
Newark Bay NJ Port Newark Branch Channel	62	843	0	155	0.00%	0.21%	94	3,057,155	0	1,559,265	0.00%	0.17%
Newark Bay NJ-port Elizabeth Branch Channel	8	6,678	10	4,652	0.03%	6.31%	11	30,311,845	275,133	25,199,494	0.05%	2.80%
Newport Bay Harbor, CA	212	51	51	51	0.13%	0.07%	245	105,643	105,643	105,643	0.02%	0.01%
Newport News , VA	35	1,675	45	55	0.11%	0.07%	42	7,303,690	1,724,280	2,061,982	0.29%	0.23%
Niagara River New York Or Harriet	277	8	0	0	0.00%	0.00%	256	82,947	0	0	0.00%	0.00%
Nikishki, AK	130	198	67	67	0.17%	0.09%	104	2,528,082	1,246,417	1,246,417	0.21%	0.14%
Norfolk Harbor, VA Portsmouth VA	6	8,120	171	237	0.43%	0.32%	9	36,054,657	7,940,041	10,224,626	1.36%	1.14%
Norfolk Hbr, VA Eastern Br Eliz R	223	40	0	0	0.00%	0.00%	259	70,304	0	0	0.00%	0.00%
Norfolk Hbr, VA Southern Br Eliz R	118	253	0	0	0.00%	0.00%	107	2,431,243	0	0	0.00%	0.00%
Northeast, Cape Fear River NC	145	156	35	35	0.09%	0.05%	167	765,323	252,584	252,584	0.04%	0.03%
Northville L.I., NY	190	68	4	4	0.01%	0.01%	151	1,040,523	337,786	337,786	0.06%	0.04%
Oakland Harbor, CA Codes 000-380, 400-835, & 840-999	5	10,053	4	6,713	0.01%	9.11%	18	21,816,623	159,321	16,649,400	0.03%	1.85%
Ogdensburg Harbor, NY	270	11	11	11	0.03%	0.01%	238	137,924	137,924	137,924	0.02%	0.02%
Olympia Harbor, WA	249	21	13	13	0.03%	0.02%	260	65,025	62,618	62,618	0.01%	0.01%

Appendix B-3
Analysis of Port Level Constraints, Year 2020

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Oregon Slough Oregon And Bay, OR	32	2,005	1,282	1,282	3.26%	1.74%	50	5,754,582	4,702,192	4,702,192	0.80%	0.52%
Oswego Harbor, NY	154	135	21	21	0.05%	0.03%	168	742,735	157,836	157,836	0.03%	0.02%
Palm Beach Harbor, FL	19	3,975	137	137	0.35%	0.19%	120	1,906,777	375,041	375,041	0.06%	0.04%
Panama City Harbor, FL	89	411	162	162	0.41%	0.22%	174	650,908	293,995	293,995	0.05%	0.03%
Pascagoula Hbr, MS	126	205	3	7	0.01%	0.01%	188	478,292	74	25,894	0.00%	0.00%
Paulsboro, NJ	97	350	246	251	0.63%	0.34%	36	10,333,485	9,644,973	9,701,311	1.65%	1.08%
Penobscot River, ME	215	48	39	39	0.10%	0.05%	207	319,936	274,197	274,197	0.05%	0.03%
Pensacola Hbr, FL	147	152	19	19	0.05%	0.03%	193	451,923	139,892	139,892	0.02%	0.02%
Petty Island NJ	282	7	0	0	0.00%	0.00%	292	1,905	0	0	0.00%	0.00%
Philadelphia, PA On Delaware River/Allegheny Ave To Poquessing Creek	56	939	203	203	0.52%	0.28%	121	1,886,518	480,746	480,746	0.08%	0.05%
Piscataqua River, NH	77	503	354	354	0.90%	0.48%	73	4,057,724	3,543,409	3,543,409	0.60%	0.39%
Pittsburg, CA	168	101	95	95	0.24%	0.13%	132	1,503,504	1,479,504	1,479,504	0.25%	0.16%
Plymouth Harbor, MA	267	12	8	8	0.02%	0.01%	252	88,818	88,399	88,399	0.02%	0.01%
Ponce Harbor, PR	58	920	339	339	0.86%	0.46%	95	3,009,708	2,074,391	2,074,391	0.35%	0.23%
Port Angeles Harbor, WA	132	195	12	12	0.03%	0.02%	184	546,577	169,123	169,123	0.03%	0.02%
Port Arthur, TX	70	649	205	205	0.52%	0.28%	46	6,400,455	3,529,101	3,529,101	0.60%	0.39%
Port Dolomite, MI	231	33	33	33	0.08%	0.04%	209	304,697	304,698	304,698	0.05%	0.03%
Port Everglades Hbr, FL	4	10,898	501	501	1.27%	0.68%	23	16,531,975	2,856,590	2,856,590	0.49%	0.32%
Port Hueneme, CA	43	1,379	242	242	0.61%	0.33%	109	2,342,305	371,983	371,983	0.06%	0.04%
Port Huron, MI	286	6	6	6	0.02%	0.01%	271	24,333	24,333	24,333	0.00%	0.00%
Port Inland, MI	188	69	69	69	0.18%	0.09%	173	670,159	670,160	670,160	0.11%	0.07%
Port Manatee, FL	66	747	83	83	0.21%	0.11%	76	3,850,611	1,725,612	1,725,612	0.29%	0.19%
Port Royal, SC	149	142	58	58	0.15%	0.08%	179	613,538	353,681	353,681	0.06%	0.04%
Portland Harbor, Fore River, ME	200	62	41	41	0.10%	0.06%	170	684,821	632,770	632,770	0.11%	0.07%
Portland Harbor, ME	46	1,233	833	833	2.12%	1.13%	13	29,509,737	26,631,515	26,631,515	4.55%	2.96%
Portland, OR	33	1,856	458	458	1.16%	0.62%	22	18,684,372	7,915,619	7,915,619	1.35%	0.88%
Portsmouth Hbr, NH	185	71	37	37	0.09%	0.05%	186	538,994	417,214	417,214	0.07%	0.05%

Appendix B-3
Analysis of Port Level Constraints, Year 2020

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Potomac River Below Washington DC/mouth To Giesboro Point	268	12	12	12	0.03%	0.02%	234	165,036	165,036	165,036	0.03%	0.02%
Presque Isle Harbor, MI	88	414	414	414	1.05%	0.56%	89	3,194,307	3,194,308	3,194,308	0.55%	0.36%
Providence River and Harbor, RI	78	463	96	96	0.24%	0.13%	68	4,320,363	1,168,897	1,168,897	0.20%	0.13%
Raritan River NJ Main Channel/raritan Bay To Ostrandrs Dock/Keasby NJ	256	17	15	15	0.04%	0.02%	268	31,762	28,553	28,553	0.00%	0.00%
Redwood City Hbr, CA	173	95	86	86	0.22%	0.12%	129	1,572,434	1,523,283	1,523,283	0.26%	0.17%
Rensselaer, NY	247	23	23	23	0.06%	0.03%	213	281,692	281,692	281,692	0.05%	0.03%
Revillagigedo Channel	246	24	10	10	0.03%	0.01%	224	220,788	88,065	88,065	0.02%	0.01%
Richmond Harbor, CA Outer Harbor, Codes 000-699	63	842	178	237	0.45%	0.32%	33	12,163,576	7,111,143	8,396,531	1.21%	0.93%
Sabine, Pass Harbor, TX	235	32	0	0	0.00%	0.00%	290	2,165	0	0	0.00%	0.00%
Saginaw, MI	156	129	121	121	0.31%	0.16%	164	802,019	774,329	774,329	0.13%	0.09%
Salem Harbor, MA	209	52	52	52	0.13%	0.07%	154	1,016,465	1,016,465	1,016,465	0.17%	0.11%
Salem River, NJ	107	311	293	293	0.74%	0.40%	222	221,127	220,325	220,325	0.04%	0.02%
San Diego Harbor, CA	26	2,302	223	223	0.57%	0.30%	56	5,238,834	2,475,748	2,475,748	0.42%	0.28%
San Francisco Hbr, CA	51	1,138	147	147	0.37%	0.20%	65	4,574,244	2,884,098	2,884,098	0.49%	0.32%
San Juan Hbr, PR	11	5,622	252	252	0.64%	0.34%	40	7,884,364	1,879,170	1,879,170	0.32%	0.21%
San Pablo Bay & Mare I Strait, CA	160	122	22	22	0.06%	0.03%	142	1,309,259	652,991	652,991	0.11%	0.07%
Sandusky Harbor, OH	127	202	202	202	0.51%	0.27%	112	2,219,389	2,219,389	2,219,389	0.38%	0.25%
Sault Ste Marie, MI	291	5	5	5	0.01%	0.01%	275	20,226	20,226	20,226	0.00%	0.00%
Savannah Harbor, GA	7	6,944	442	2,830	1.12%	3.84%	15	26,960,939	2,546,666	14,173,593	0.43%	1.58%
Schuylkill River Phila, PA Project	166	104	69	69	0.18%	0.09%	203	356,214	233,467	233,467	0.04%	0.03%
Searsport Hbr, Me	121	224	139	139	0.35%	0.19%	144	1,213,197	861,498	861,498	0.15%	0.10%
Seattle Harbor, WA Duwamish River	41	1,453	152	152	0.39%	0.21%	66	4,483,664	988,253	988,253	0.17%	0.11%
Seattle Harbor, WA East Waterway	20	3,425	0	2,525	0.00%	3.43%	35	10,740,372	0	9,075,076	0.00%	1.01%

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Seattle Harbor, WA Elliott Bay	53	1,078	719	719	1.83%	0.98%	44	6,903,913	6,480,438	6,480,438	1.11%	0.72%
Seattle Harbor, WA Harbor Island	106	313	0	0	0.00%	0.00%	187	496,695	0	0	0.00%	0.00%
Seattle Harbor, WA West Waterway	61	858	737	737	1.87%	1.00%	54	5,542,976	5,476,620	5,476,620	0.94%	0.61%
Seattle Harbor, WA/Richmond Beach To Edmonds	292	5	2	2	0.01%	0.00%	274	21,427	12,363	12,363	0.00%	0.00%
Seward, AK	219	45	45	45	0.11%	0.06%	146	1,146,267	1,146,267	1,146,267	0.20%	0.13%
Silver Bay, MN	301	2	2	2	0.01%	0.00%	281	7,727	7,727	7,727	0.00%	0.00%
Skagway Harbor, AK	184	73	29	29	0.07%	0.04%	246	104,204	41,416	41,416	0.01%	0.00%
St Ignace, MI	287	6	0	0	0.00%	0.00%	265	38,770	0	0	0.00%	0.00%
St., Paul Is., AK (Pribilof Island-coast)	302	2	0	0	0.00%	0.00%	294	1,151	0	0	0.00%	0.00%
Steilacoom, WA	257	17	0	0	0.00%	0.00%	255	84,140	0	0	0.00%	0.00%
Stockton, CA	90	407	310	310	0.79%	0.42%	81	3,443,631	3,071,787	3,071,787	0.52%	0.34%
Stoneport, MI	216	48	45	45	0.11%	0.06%	200	387,623	375,608	375,608	0.06%	0.04%
Suisun Bay Channel, CA	253	18	11	11	0.03%	0.01%	231	182,488	120,094	120,094	0.02%	0.01%
Superior, WI	82	451	408	408	1.04%	0.55%	58	4,926,565	4,469,173	4,469,173	0.76%	0.50%
Tacoma Harbor, WA	15	4,433	1,252	2,568	3.18%	3.48%	17	22,860,669	7,550,613	16,546,629	1.29%	1.84%
Tacoma Harbor, WA Middle Waterway	161	122	0	0	0.00%	0.00%	226	206,735	0	0	0.00%	0.00%
Tampa Harbor, FL	25	2,519	100	100	0.25%	0.14%	20	19,961,753	4,015,082	4,015,082	0.69%	0.45%
Texas City, TX	34	1,800	231	1,097	0.59%	1.49%	8	38,669,704	8,883,659	34,940,385	1.52%	3.89%
Thru 04470 Philadelphia, PA On Delaware Rv/Hog Island To Allegheny Ave	21	3,290	345	539	0.88%	0.73%	10	33,664,484	24,706,373	26,864,898	4.22%	2.99%
Thru 66540 Giww Galveston To Corpus Christi	124	209	88	88	0.22%	0.12%	123	1,834,094	1,359,680	1,359,680	0.23%	0.15%
Thru 77647 Port Of Chicago Il/calumet Harbor, & River Il & In-south Chicago	85	441	346	346	0.88%	0.47%	78	3,655,985	3,334,331	3,334,331	0.57%	0.37%
Togiak, AK (Bristol Bay)	297	4	0	0	0.00%	0.00%	297	700	0	0	0.00%	0.00%

Appendix B-3
Analysis of Port Level Constraints, Year 2020

Port Name/Location Name	Relative Call Rank	Number of calls	Constrained Calls with Projects	Constrained Calls without Projects	Percent of Total Constrained Calls with Projects	Percent of Total Constrained Calls without Projects	Relative Tonnage Rank	Number of tons	Constrained tons with projects	Constrained tons without projects	Percent of Total Constrained Tons with Projects	Percent of Total Constrained Tons without Projects
Toledo, OH	60	867	584	584	1.48%	0.79%	41	7,603,756	6,526,623	6,526,623	1.11%	0.73%
Tullytown, PA	227	37	23	23	0.06%	0.03%	172	672,675	450,310	450,310	0.08%	0.05%
Unak Bay & Island, AK/(Iliuliuk & Dutch Hbr.)	104	324	148	148	0.38%	0.20%	201	365,719	112,172	112,172	0.02%	0.01%
Upper Bay, NY Narrows To/Municipal Ferry Dock St Geo Si/exc Bay Ridge Red Hook & Buttermilk Channels	38	1,609	150	482	0.38%	0.65%	16	25,082,333	5,256,722	13,795,273	0.90%	1.53%
Upper Bay, NY/bayonne NJ To Claremont NJ/bay Ridge Flats And Bedloes Is	29	2,098	2	143	0.01%	0.19%	47	6,323,412	86,550	927,927	0.01%	0.10%
Valdez, AK	241	27	0	0	0.00%	0.00%	152	1,032,888	0	0	0.00%	0.00%
Vancouver, WA	67	721	176	176	0.45%	0.24%	52	5,571,092	2,556,647	2,556,647	0.44%	0.28%
Wando River, SC	16	4,264	1,380	3,778	3.51%	5.12%	24	15,184,660	6,809,917	13,875,249	1.16%	1.54%
Waukegan, IL	271	11	0	0	0.00%	0.00%	273	22,207	0	0	0.00%	0.00%
Wauna, OR	229	35	0	0	0.00%	0.00%	264	39,718	0	0	0.00%	0.00%
Whittier, AK	194	65	0	0	0.00%	0.00%	263	43,870	0	0	0.00%	0.00%
Wilmington Harbor, NC	40	1,545	473	837	1.20%	1.14%	60	4,907,887	1,712,259	3,456,321	0.29%	0.38%
Wilmington Harbor, Southport NC	203	60	0	17	0.00%	0.02%	229	190,056	0	67,052	0.00%	0.01%
Yolo Port District, CA	163	117	85	85	0.22%	0.12%	160	877,799	695,362	695,362	0.12%	0.08%
York River, VA	169	99	99	99	0.25%	0.13%	131	1,535,322	1,535,323	1,535,323	0.26%	0.17%

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APPENDIX C

Appendix C-1A
Analysis of Containership Constraints, 2000

Coast Name	Port Name/Location Name	Number of calls	Constrained Calls with Projects	Percent of Calls Constrained	Percent of Total Constrained Calls	Constrained Calls without Projects	Percent of Calls Constrained	Percent of Total Constrained Calls
Pacific	Afognak Island, AK	2	0	0.0%	0%	0	0.0%	0%
Pacific	Anacortes Harbor, WA	2	0	0.0%	0%	0	0.0%	0%
Pacific	Anchorage, AK	4	4	100.0%	0.03%	4	100.0%	0.03%
Atlantic	Baltimore Hbr and Channels, MD	836	0	0.0%	0%	0	0.0%	0%
Pacific	Barbers Point Channel Oahu	2	0	0.0%	0%	0	0.0%	0%
Atlantic	Bay Ridge Channel, NY	4	4	100.0%	0.03%	4	100.0%	0.03%
Gulf	Bayou Casotte, MS	8	0	0.0%	0%	0	0.0%	0%
Gulf	Beaumont, TX	2	2	100.0%	0.02%	2	100.0%	0.02%
Atlantic	Boston MA Island End River	66	18	27.3%	0.14%	18	27.3%	0.14%
Atlantic	Boston, MA Chelsea River	14	14	100.0%	0.11%	14	100.0%	0.11%
Atlantic	Boston, MA Main Water Front	172	146	84.9%	1.12%	146	84.9%	1.12%
Atlantic	Boston, MA Weymouth Fore River	2	2	100.0%	0.02%	2	100.0%	0.02%
Atlantic	Brunswick Hbr, GA	16	16	100.0%	0.12%	16	100.0%	0.12%
Atlantic	Buttermilk Channel, NY	338	174	51.5%	1.34%	174	51.5%	1.34%
Atlantic	Camden, NJ	2	0	0.0%	0%	0	0.0%	0%
Atlantic	Canaveral Harbor, FL	2	0	0.0%	0%	0	0.0%	0%
Pacific	Carquinez Strait, CA	2	2	100.0%	0.02%	2	100.0%	0.02%
Atlantic	Charleston Cooper River, SC	1,062	694	65.3%	5.33%	694	65.3%	5.33%
Atlantic	Chesapeake Bay Open Waters	4	0	0.0%	0%	0	0.0%	0%
Atlantic	Christina River Wilmington De	214	102	47.7%	0.78%	102	47.7%	0.78%
Atlantic	Clinton Point, NY	2	2	100.0%	0.02%	2	100.0%	0.02%
Gulf	Corpus Christi, TX	4	0	0.0%	0%	0	0.0%	0%
Atlantic	Dania Cut Off Canal, FL	2	2	100.0%	0.02%	2	100.0%	0.02%
Gulf	East Pearl River, MS	2	2	100.0%	0.02%	2	100.0%	0.02%
Atlantic	East River NY Upper NY Bay To USN Shipyard	30	24	80.0%	0.18%	24	80.0%	0.18%
Atlantic	East River, NY/USN Shipyd, Excluding East Channel	4	4	100.0%	0.03%	4	100.0%	0.03%
Atlantic	Eddystone, PA	114	0	0.0%	0%	0	0.0%	0%
Pacific	Everett Harbor, WA Outer Harbor	18	18	100.0%	0.14%	18	100.0%	0.14%
Atlantic	Fernandina, FL	180	0	0.0%	0%	0	0.0%	0%
Gulf	Freeport Harbor, TX	174	0	0.0%	0%	0	0.0%	0%
Gulf	Galveston Channel, TX	90	86	95.6%	0.66%	86	95.6%	0.66%
Atlantic	Gloucester, NJ	176	0	0.0%	0%	0	0.0%	0%
Atlantic	Guayanilla Hbr, PR	12	8	66.7%	0.06%	8	66.7%	0.06%
Gulf	Gulfport Hbr & Ship Is Pass, MS	236	28	11.9%	0.22%	28	11.9%	0.22%
Pacific	Homer, AK	8	8	100.0%	0.06%	8	100.0%	0.06%
Pacific	Honolulu Hbr, Oahu, HI	290	0	0.0%	0%	0	0.0%	0%
Gulf	Houston Ship Channel, TX	1,234	662	53.6%	5.08%	662	53.6%	5.08%
Atlantic	Hudson River Channel, NY & NJ/NY Shore W 40 To W 59 St, NY	8	2	25.0%	0.02%	2	25.0%	0.02%
Pacific	Humboldt Hbr & Bay, CA	2	2	100.0%	0.02%	2	100.0%	0.02%
Pacific	Icy Bay, AK	2	0	0.0%	0%	0	0.0%	0%
Gulf	Inner Harbor Navigation Canal, LA	598	320	53.5%	2.46%	320	53.5%	2.46%
Atlantic	Jacksonville Harbor, FL	602	160	26.6%	1.23%	160	26.6%	1.23%

Appendix C-1A
Analysis of Containership Constraints, 2000

Coast Name	Port Name/Location Name	Number of calls	Constrained Calls with Projects	Percent of Calls Constrained	Percent of Total Constrained Calls	Constrained Calls without Projects	Percent of Calls Constrained	Percent of Total Constrained Calls
Atlantic	James River, VA	102	50	49.0%	0.38%	50	49.0%	0.38%
Pacific	Juneau Gastineau Channel, AK	36	0	0.0%	0%	0	0.0%	0%
Pacific	Kalama, WA	8	8	100.0%	0.06%	8	100.0%	0.06%
Pacific	Ketchikan, AK (Tongass Narrows)	2	2	100.0%	0.02%	2	100.0%	0.02%
Pacific	Kivilina, AK (coast)	4	0	0.0%	0%	0	0.0%	0%
Pacific	Long Beach Harbor, CA	1,188	0	0.0%	0%	0	0.0%	0%
Pacific	Long Beach Outer Harbor, CA	1,608	0	0.0%	0%	0	0.0%	0%
Pacific	Los Angeles Harbor, CA	2,870	0	0.0%	0%	0	0.0%	0%
Atlantic	Lower Delaware Bay, DE	2	0	0.0%	0%	0	0.0%	0%
Gulf	Lower Miss River Mile 118	2	0	0.0%	0%	0	0.0%	0%
Gulf	Lower Miss River Mile 132	2	0	0.0%	0%	0	0.0%	0%
Gulf	Lower Miss River Mile 138	8	0	0.0%	0%	0	0.0%	0%
Gulf	Lower Miss River Mile 139	2	0	0.0%	0%	0	0.0%	0%
Gulf	Lower Miss River Mile 187	2	0	0.0%	0%	0	0.0%	0%
Gulf	Lower Miss River Mile 203	2	0	0.0%	0%	0	0.0%	0%
Gulf	Lower Miss River Mile 210	2	0	0.0%	0%	0	0.0%	0%
Gulf	Lower Miss River Mile 61	6	0	0.0%	0%	0	0.0%	0%
Gulf	Lower Miss River Mile 72	2	0	0.0%	0%	0	0.0%	0%
Atlantic	Marcus Hook, PA	4	0	0.0%	0%	0	0.0%	0%
Atlantic	Miami Harbor, FL	2,126	410	19.3%	3.15%	410	19.3%	3.15%
Atlantic	Miami River, FL	70	50	71.4%	0.38%	50	71.4%	0.38%
Gulf	Mobile Harbor AL	46	0	0.0%	0%	0	0.0%	0%
Gulf	Mobile Harbor, AL Chickasaw Creek	2	0	0.0%	0%	0	0.0%	0%
Atlantic	Morrisville, PA	2	2	100.0%	0.02%	2	100.0%	0.02%
Gulf	New Orleans, LA, Miles 88 Thru 106	270	6	2.2%	0.05%	6	2.2%	0.05%
Atlantic	New York & New Jersey Channels Main Ship Chan To Smith Creek NJ	4	4	100.0%	0.03%	4	100.0%	0.03%
Atlantic	New York & New Jersey Channels Piles Creek/to Kill Van Kull Exc Channels South/of Shooters Island	502	440	87.6%	3.38%	440	87.6%	3.38%
Atlantic	New York & New Jersey Channels Smith Creek To Piles Creek NJ	18	18	100.0%	0.14%	18	100.0%	0.14%
Atlantic	New York & New Jersey Channels/Housman Avenue To St George S I	10	8	80.0%	0.06%	8	80.0%	0.06%
Atlantic	Newark Bay NJ Offshore Connecting Channel/between Port Newark And Port Elizabeth/branch Channels	12	10	83.3%	0.08%	10	83.3%	0.08%
Atlantic	Newark Bay NJ Port Newark Branch Channel	52	40	76.9%	0.31%	40	76.9%	0.31%
Atlantic	Newark Bay NJ-port Elizabeth Branch Channel	2,538	1,870	73.7%	14.36%	1,870	73.7%	14.36%
Atlantic	Newport News , VA	462	0	0.0%	0%	0	0.0%	0%
Atlantic	Norfolk Harbor, VA Portsmouth VA	2,704	0	0.0%	0%	0	0.0%	0%
Atlantic	Norfolk Hbr, VA Eastern Br Eliz R	2	0	0.0%	0%	0	0.0%	0%
Atlantic	Norfolk Hbr, VA Southern Br Eliz R	2	0	0.0%	0%	0	0.0%	0%
Atlantic	Northeast, Cape Fear River NC	4	0	0.0%	0%	0	0.0%	0%

Appendix C-1A
Analysis of Containership Constraints, 2000

Coast Name	Port Name/Location Name	Number of calls	Constrained Calls with Projects	Percent of Calls Constrained	Percent of Total Constrained Calls	Constrained Calls without Projects	Percent of Calls Constrained	Percent of Total Constrained Calls
Atlantic	Northville L.I., NY	18	0	0.0%	0%	0	0.0%	0%
Pacific	Oakland Harbor, CA Codes 000-380, 400-835, & 840-999	2,990	1,994	66.7%	15.31%	1,994	66.7%	15.31%
Pacific	Oregon Slough Oregon And Bay, OR	510	428	83.9%	3.29%	428	83.9%	3.29%
Atlantic	Palm Beach Harbor, FL	48	0	0.0%	0%	0	0.0%	0%
Gulf	Pascagoula Hbr, MS	4	0	0.0%	0%	0	0.0%	0%
Atlantic	Paulsboro, NJ	2	0	0.0%	0%	0	0.0%	0%
Atlantic	Philadelphia, PA On Delaware River/Allegheny Ave To Poquessing Creek	94	86	91.5%	0.66%	86	91.5%	0.66%
Atlantic	Piscataqua River, NH	6	6	100.0%	0.05%	6	100.0%	0.05%
Atlantic	Ponce Harbor, PR	244	114	46.7%	0.88%	114	46.7%	0.88%
Atlantic	Port Everglades Hbr, FL	1,376	76	5.5%	0.58%	76	5.5%	0.58%
Atlantic	Port Royal, SC	2	2	100.0%	0.02%	2	100.0%	0.02%
Atlantic	Portland Harbor, ME	10	10	100.0%	0.08%	10	100.0%	0.08%
Pacific	Portland, OR	16	4	25.0%	0.03%	4	25.0%	0.03%
Atlantic	Portsmouth Hbr, NH	2	2	100.0%	0.02%	2	100.0%	0.02%
Atlantic	Providence River and Harbor, RI	4	4	100.0%	0.03%	4	100.0%	0.03%
Atlantic	Raritan River NJ Main Channel/raritan Bay To Ostrandors Dock/Keasby NJ	6	6	100.0%	0.05%	6	100.0%	0.05%
Pacific	Richmond Harbor, CA Outer Harbor, Codes 000-699	4	0	0.0%	0%	0	0.0%	0%
Atlantic	Salem River, NJ	108	108	100.0%	0.83%	108	100.0%	0.83%
Pacific	San Francisco Hbr, CA	304	4	1.3%	0.03%	4	1.3%	0.03%
Atlantic	San Juan Hbr, PR	516	12	2.3%	0.09%	12	2.3%	0.09%
Atlantic	Savannah Harbor, GA	1,608	1,018	63.3%	7.82%	1,018	63.3%	7.82%
Atlantic	Schuylkill River Phila, PA Project	2	2	100.0%	0.02%	2	100.0%	0.02%
Atlantic	Searsport Hbr, Me	2	2	100.0%	0.02%	2	100.0%	0.02%
Pacific	Seattle Harbor, WA Duwamish River	22	22	100.0%	0.17%	22	100.0%	0.17%
Pacific	Seattle Harbor, WA East Waterway	916	820	89.5%	6.30%	820	89.5%	6.30%
Pacific	Seattle Harbor, WA Elliott Bay	202	202	100.0%	1.55%	202	100.0%	1.55%
Pacific	Seattle Harbor, WA West Waterway	202	164	81.2%	1.26%	164	81.2%	1.26%
Pacific	Seward, AK	4	4	100.0%	0.03%	4	100.0%	0.03%
Pacific	Skagway Harbor, AK	10	10	100.0%	0.08%	10	100.0%	0.08%
Pacific	Tacoma Harbor, WA	726	722	99.4%	5.55%	722	99.4%	5.55%
Gulf	Tampa Harbor, FL	70	0	0.0%	0%	0	0.0%	0%
Atlantic	Thru 04470 Philadelphia, PA On Delaware Rv/Hog Island To Allegheny Ave	292	16	5.5%	0.12%	16	5.5%	0.12%
Gulf	Thru 66540 Giww Galveston To Corpus Christi	14	14	100.0%	0.11%	14	100.0%	0.11%
Pacific	Unak Bay & Island, AK/(Iliuliuk & Dutch Hbr.)	60	60	100.0%	0.46%	60	100.0%	0.46%
Atlantic	Upper Bay, NY Narrows To/Municipal Ferry Dock St Geo Si/exc Bay Ridge Red Hook & Buttermilk Channels	122	22	18.0%	0.17%	22	18.0%	0.17%

Appendix C-1A
Analysis of Containership Constraints, 2000

Coast Name	Port Name/Location Name	Number of calls	Constrained Calls with Projects	Percent of Calls Constrained	Percent of Total Constrained Calls	Constrained Calls without Projects	Percent of Calls Constrained	Percent of Total Constrained Calls
Atlantic	Upper Bay, NY/Bayonne NJ To Claremont NJ/bay Ridge Flats And Bedloes Is	418	36	8.6%	0.28%	36	8.6%	0.28%
Atlantic	Wando River, SC	1,650	1,488	90.2%	11.43%	1,488	90.2%	11.43%
Pacific	Whittier, AK	2	0	0.0%	0%	0	0.0%	0%
Atlantic	Wilmington Harbor, NC	184	138	75.0%	1.06%	138	75.0%	1.06%

Appendix C-1B
Analysis of Containership Constraints, 2010

Coast Name	Port Name/Location Name	Number of calls	Constrained Calls with Projects	Percent of Calls Constrained	Percent of Total Constrained Calls	Constrained Calls without Projects	Percent of Calls Constrained	Percent of Total Constrained Calls
Pacific	Afognak Island, AK	3	0	0.0%	0%	0	0.0%	0%
Pacific	Anacortes Harbor, WA	3	0	0.0%	0%	0	0.0%	0%
Pacific	Anchorage, AK	6	6	100.0%	0.09%	6	100.0%	0.03%
Atlantic	Baltimore Hbr and Channels, MD	1227	0	0.0%	0%	0	0.0%	0%
Pacific	Barbers Point Channel Oahu	3	0	0.0%	0%	0	0.0%	0%
Atlantic	Bay Ridge Channel, NY	6	6	100.0%	0.09%	6	100.0%	0.03%
Gulf	Bayou Casotte, MS	15	0	0.0%	0%	0	0.0%	0%
Gulf	Beaumont, TX	2	2	100.0%	0.03%	2	100.0%	0.01%
Atlantic	Boston MA Island End River	86	22	25.6%	0.34%	22	25.6%	0.11%
Atlantic	Boston, MA Chelsea River	17	17	100.0%	0.26%	17	100.0%	0.08%
Atlantic	Boston, MA Main Water Front	244	103	42.2%	1.58%	207	84.8%	1.00%
Atlantic	Boston, MA Weymouth Fore River	3	3	100.0%	0.05%	3	100.0%	0.01%
Atlantic	Brunswick Hbr, GA	20	20	100.0%	0.31%	20	100.0%	0.10%
Atlantic	Buttermilk Channel, NY	522	266	51.0%	4.07%	266	51.0%	1.29%
Atlantic	Camden, NJ	0	0		0%	0		0%
Atlantic	Canaveral Harbor, FL	2	0	0.0%	0%	0	0.0%	0%
Pacific	Carquinez Strait, CA	3	3	100.0%	0.05%	3	100.0%	0.01%
Atlantic	Charleston Cooper River, SC	1562	314	20.1%	4.80%	996	63.8%	4.81%
Atlantic	Chesapeake Bay Open Waters	5	0	0.0%	0%	0	0.0%	0%
Atlantic	Christina River Wilmington De	381	185	48.6%	2.83%	185	48.6%	0.89%
Atlantic	Clinton Point, NY	3	3	100.0%	0.05%	3	100.0%	0.01%

Appendix C-1B
Analysis of Containership Constraints, 2010

Coast Name	Port Name/Location Name	Number of calls	Constrained Calls with Projects	Percent of Calls Constrained	Percent of Total Constrained Calls	Constrained Calls without Projects	Percent of Calls Constrained	Percent of Total Constrained Calls
Gulf	Corpus Christi, TX	5	0	0.0%	0%	0	0.0%	0%
Atlantic	Dania Cut Off Canal, FL	3	3	100.0%	0.05%	3	100.0%	0.01%
Gulf	East Pearl River, MS	4	4	100.0%	0.06%	4	100.0%	0.02%
Atlantic	East River NY Upper NY Bay To USN Shipyard	48	38	79.2%	0.58%	38	79.2%	0.18%
Atlantic	East River, NY/USN Shipyard, Excluding East Channel	7	7	100.0%	0.11%	7	100.0%	0.03%
Atlantic	Eddystone, PA	154	0	0.0%	0%	0	0.0%	0%
Pacific	Everett Harbor, WA Outer Harbor	26	26	100.0%	0.40%	26	100.0%	0.13%
Atlantic	Fernandina, FL	206	0	0.0%	0%	0	0.0%	0%
Gulf	Freeport Harbor, TX	303	0	0.0%	0%	0	0.0%	0%
Gulf	Galveston Channel, TX	131	0	0.0%	0%	126	96.2%	0.61%
Atlantic	Gloucester, NJ	244	0	0.0%	0%	0	0.0%	0%
Atlantic	Guayanilla Hbr, PR	16	10	62.5%	0.15%	10	62.5%	0.05%
Gulf	Gulfport Hbr & Ship Is Pass, MS	438	53	12.1%	0.81%	53	12.1%	0.26%
Pacific	Homer, AK	13	13	100.0%	0.20%	13	100.0%	0.06%
Pacific	Honolulu Hbr, Oahu, HI	480	0	0.0%	0%	0	0.0%	0%
Gulf	Houston Ship Channel, TX	1827	258	14.1%	3.95%	962	52.7%	4.65%
Atlantic	Hudson River Channel, NY & NJ/NY Shore W 40 To W 59 St, NY	11	3	27.3%	0.05%	3	27.3%	0.01%
Pacific	Humboldt Hbr & Bay, CA	3	3	100.0%	0.05%	3	100.0%	0.01%
Pacific	Icy Bay, AK	3	0	0.0%	0%	0	0.0%	0%
Gulf	Inner Harbor Navigation Canal, LA	903	474	52.5%	7.25%	474	52.5%	2.29%
Atlantic	Jacksonville Harbor, FL	847	237	28.0%	3.63%	237	28.0%	1.15%
Atlantic	James River, VA	144	70	48.6%	1.07%	70	48.6%	0.34%

Appendix C-1B
Analysis of Containership Constraints, 2010

Coast Name	Port Name/Location Name	Number of calls	Constrained Calls with Projects	Percent of Calls Constrained	Percent of Total Constrained Calls	Constrained Calls without Projects	Percent of Calls Constrained	Percent of Total Constrained Calls
ic								
Pacific	Juneau Gastineau Channel, AK	54	0	0.0%	0%	0	0.0%	0%
Pacific	Kalama, WA	11	0	0.0%	0%	11	100.0%	0.05%
Pacific	Ketchikan, AK (Tongass Narrows)	3	3	100.0%	0.05%	3	100.0%	0.01%
Pacific	Kivilina, AK (coast)	6	0	0.0%	0%	0	0.0%	0%
Pacific	Long Beach Harbor, CA	2013	0	0.0%	0%	0	0.0%	0%
Pacific	Long Beach Outer Harbor, CA	2789	0	0.0%	0%	0	0.0%	0%
Pacific	Los Angeles Harbor, CA	4910	0	0.0%	0%	0	0.0%	0%
Atlantic	Lower Delaware Bay, DE	2	0	0.0%	0%	0	0.0%	0%
Gulf	Lower Miss River Mile 118	3	0	0.0%	0%	0	0.0%	0%
Gulf	Lower Miss River Mile 132	3	0	0.0%	0%	0	0.0%	0%
Gulf	Lower Miss River Mile 138	12	0	0.0%	0%	0	0.0%	0%
Gulf	Lower Miss River Mile 139	2	0	0.0%	0%	0	0.0%	0%
Gulf	Lower Miss River Mile 187	2	0	0.0%	0%	0	0.0%	0%
Gulf	Lower Miss River Mile 203	2	0	0.0%	0%	0	0.0%	0%
Gulf	Lower Miss River Mile 210	3	0	0.0%	0%	0	0.0%	0%
Gulf	Lower Miss River Mile 61	8	0	0.0%	0%	0	0.0%	0%
Gulf	Lower Miss River Mile 72	3	0	0.0%	0%	0	0.0%	0%
Atlantic	Marcus Hook, PA	6	0	0.0%	0%	0	0.0%	0%
Atlantic	Miami Harbor, FL	3357	0	0.0%	0%	620	18.5%	3.00%
Atlantic	Miami River, FL	99	70	70.7%	1.07%	70	70.7%	0.34%
Gulf	Mobile Harbor AL	65	0	0.0%	0%	0	0.0%	0%
Gulf	Mobile Harbor, AL Chickasaw Creek	3	0	0.0%	0%	0	0.0%	0%
Atlantic	Morrisville, PA	3	3	100.0%	0.05%	3	100.0%	0.01%
Gulf	New Orleans, LA, Miles 88 Thru 106	388	0	0.0%	0%	9	2.3%	0.04%

Appendix C-1B
Analysis of Containership Constraints, 2010

Coast Name	Port Name/Location Name	Number of calls	Constrained Calls with Projects	Percent of Calls Constrained	Percent of Total Constrained Calls	Constrained Calls without Projects	Percent of Calls Constrained	Percent of Total Constrained Calls
Atlantic	New York & New Jersey Channels Main Ship Chan To Smith Creek NJ	6	6	100.0%	0.09%	6	100.0%	0.03%
Atlantic	New York & New Jersey Channels Piles Creek/to Kill Van Kull Exc Channels South/of Shooters Island	768	262	34.1%	4.01%	674	87.8%	3.26%
Atlantic	New York & New Jersey Channels Smith Creek To Piles Creek NJ	29	29	100.0%	0.44%	29	100.0%	0.14%
Atlantic	New York & New Jersey Channels/Housman Avenue To St George S I	15	0	0.0%	0%	12	80.0%	0.06%
Atlantic	Newark Bay NJ Offshore Connecting Channel/between Port Newark And Port Elizabeth/branch Channels	18	0	0.0%	0%	15	83.3%	0.07%
Atlantic	Newark Bay NJ Port Newark Branch Channel	76	0	0.0%	0%	56	73.7%	0.27%
Atlantic	Newark Bay NJ-port Elizabeth Branch Channel	3946	0	0.0%	0%	2907	73.7%	14.05%
Atlantic	Newport News , VA	683	0	0.0%	0%	0	0.0%	0%
Atlantic	Norfolk Harbor, VA Portsmouth VA	4221	0	0.0%	0%	0	0.0%	0%
Atlantic	Norfolk Hbr, VA Eastern Br Eliz R	3	0	0.0%	0%	0	0.0%	0%
Atlantic	Norfolk Hbr, VA Southern Br Eliz R	2	0	0.0%	0%	0	0.0%	0%
Atlantic	Northeast, Cape Fear River NC	4	0	0.0%	0%	0	0.0%	0%
Atlantic	Northville L.I., NY	27	0	0.0%	0%	0	0.0%	0%
Pacific	Oakland Harbor, CA Codes 000-380, 400-835, & 840-999	5185	0	0.0%	0%	3542	68.3%	17.12%
Pacific	Oregon Slough Oregon And Bay, OR	832	719	86.4%	11.00%	719	86.4%	3.48%
Atlantic	Palm Beach Harbor, FL	74	0	0.0%	0%	0	0.0%	0%

Appendix C-1B
Analysis of Containership Constraints, 2010

Coast Name	Port Name/Location Name	Number of calls	Constrained Calls with Projects	Percent of Calls Constrained	Percent of Total Constrained Calls	Constrained Calls without Projects	Percent of Calls Constrained	Percent of Total Constrained Calls
ic								
Gulf	Pascagoula Hbr, MS	8	0	0.0%	0%	0	0.0%	0%
Atlant ic	Paulsboro, NJ	3	0	0.0%	0%	0	0.0%	0%
Atlant ic	Philadelphia, PA On Delaware River/Allegheny Ave To Poquessing Creek	140	128	91.4%	1.96%	128	91.4%	0.62%
Atlant ic	Piscataqua River, NH	7	7	100.0%	0.11%	7	100.0%	0.03%
Atlant ic	Ponce Harbor, PR	359	156	43.5%	2.39%	156	43.5%	0.75%
Atlant ic	Port Everglades Hbr, FL	2069	109	5.3%	1.67%	109	5.3%	0.53%
Atlant ic	Port Royal, SC	3	3	100.0%	0.05%	3	100.0%	0.01%
Atlant ic	Portland Harbor, ME	11	11	100.0%	0.17%	11	100.0%	0.05%
Pacifi c	Portland, OR	23	6	26.1%	0.09%	6	26.1%	0.03%
Atlant ic	Portsmouth Hbr, NH	2	2	100.0%	0.03%	2	100.0%	0.01%
Atlant ic	Providence River and Harbor, RI	5	5	100.0%	0.08%	5	100.0%	0.02%
Atlant ic	Raritan River NJ Main Channel/raritan Bay To Ostrand's Dock/Keasby NJ	9	9	100.0%	0.14%	9	100.0%	0.04%
Pacifi c	Richmond Harbor, CA Outer Harbor, Codes 000-699	7	0	0.0%	0%	0	0.0%	0%
Atlant ic	Salem River, NJ	155	155	100.0%	2.37%	155	100.0%	0.75%
Pacifi c	San Francisco Hbr, CA	480	9	1.9%	0.14%	9	1.9%	0.04%
Atlant ic	San Juan Hbr, PR	775	15	1.9%	0.23%	15	1.9%	0.07%
Atlant ic	Savannah Harbor, GA	2475	216	8.7%	3.31%	1541	62.3%	7.45%
Atlant ic	Schuylkill River Phila, PA Project	3	3	100.0%	0.05%	3	100.0%	0.01%

Appendix C-1B
Analysis of Containership Constraints, 2010

Coast Name	Port Name/Location Name	Number of calls	Constrained Calls with Projects	Percent of Calls Constrained	Percent of Total Constrained Calls	Constrained Calls without Projects	Percent of Calls Constrained	Percent of Total Constrained Calls
Atlantic	Searsport Hbr, Me	2	2	100.0%	0.03%	2	100.0%	0.01%
Pacific	Seattle Harbor, WA Duwamish River	38	38	100.0%	0.58%	38	100.0%	0.18%
Pacific	Seattle Harbor, WA East Waterway	1507	0	0.0%	0%	1378	91.4%	6.66%
Pacific	Seattle Harbor, WA Elliott Bay	343	343	100.0%	5.25%	343	100.0%	1.66%
Pacific	Seattle Harbor, WA West Waterway	349	284	81.4%	4.35%	284	81.4%	1.37%
Pacific	Seward, AK	5	5	100.0%	0.08%	5	100.0%	0.02%
Pacific	Skagway Harbor, AK	17	17	100.0%	0.26%	17	100.0%	0.08%
Pacific	Tacoma Harbor, WA	1228	550	44.8%	8.42%	1221	99.4%	5.90%
Gulf	Tampa Harbor, FL	90	0	0.0%	0%	0	0.0%	0%
Atlantic	Thru 04470 Philadelphia, PA On Delaware Rv/Hog Island To Allegheny Ave	404	0	0.0%	0%	21	5.2%	0.10%
Gulf	Thru 66540 Galveston To Corpus Christi	20	20	100.0%	0.31%	20	100.0%	0.10%
Pacific	Unak Bay & Island, AK/(Iliuliuk & Dutch Hbr.)	89	89	100.0%	1.36%	89	100.0%	0.43%
Atlantic	Upper Bay, NY Narrows To/Municipal Ferry Dock St Geo Si/exc Bay Ridge Red Hook & Buttermilk Channels	187	0	0.0%	0%	33	17.6%	0.16%
Atlantic	Upper Bay, NY/Bayonne NJ To Claremont NJ/bay Ridge Flats And Bedloes Is	649	0	0.0%	0%	53	8.2%	0.26%
Atlantic	Wando River, SC	2598	891	34.3%	13.63%	2352	90.5%	11.37%
Pacific	Whittier, AK	3	0	0.0%	0%	0	0.0%	0%
Atlantic	Wilmington Harbor, NC	304	221	72.7%	3.38%	233	76.6%	1.13%

Appendix C-1C
Analysis of Containership Constraints, 2020

Coast Name	Port Name/Location Name	Number of calls	Constrained Calls with Projects	Percent of Calls Constrained	Percent of Total Constrained Calls	Constrained Calls without Projects	Percent of Calls Constrained	Percent of Total Constrained Calls
Pacific	Afognak Island, AK	5	0	0.0%	0%	0	0.0%	0%
Pacific	Anacortes Harbor, WA	5	0	0.0%	0%	0	0.0%	0%
Pacific	Anchorage, AK	10	10	100.0%	0.10%	10	100.0%	0.03%
Atlantic	Baltimore Hbr and Channels, MD	1794	0	0.0%	0%	0	0.0%	0%
Pacific	Barbers Point Channel Oahu	5	0	0.0%	0%	0	0.0%	0%
Atlantic	Bay Ridge Channel, NY	9	9	100.0%	0.09%	9	100.0%	0.03%
Gulf	Bayou Casotte, MS	29	0	0.0%	0%	0	0.0%	0%
Gulf	Beaumont, TX	2	2	100.0%	0.02%	2	100.0%	0.01%
Atlantic	Boston MA Island End River	113	26	23.0%	0.26%	26	23.0%	0.08%
Atlantic	Boston, MA Chelsea River	20	20	100.0%	0.20%	20	100.0%	0.06%
Atlantic	Boston, MA Main Water Front	338	144	42.6%	1.43%	288	85.2%	0.84%
Atlantic	Boston, MA Weymouth Fore River	4	4	100.0%	0.04%	4	100.0%	0.01%
Atlantic	Brunswick Hbr, GA	24	24	100.0%	0.24%	24	100.0%	0.07%
Atlantic	Buttermilk Channel, NY	818	413	50.5%	4.09%	413	50.5%	1.21%
Atlantic	Camden, NJ	0	0	0.0%	0%	0	0.0%	0%
Atlantic	Canaveral Harbor, FL	2	0	0.0%	0%	0	0.0%	0%
Pacific	Carquinez Strait, CA	4	4	100.0%	0.04%	4	100.0%	0.01%
Atlantic	Charleston Cooper River, SC	2353	459	19.5%	4.55%	1491	63.4%	4.37%
Atlantic	Chesapeake Bay Open Waters	8	0	0.0%	0%	0	0.0%	0%
Atlantic	Christina River Wilmington De	695	339	48.8%	3.36%	339	48.8%	0.99%
Atlantic	Clinton Point, NY	4	4	100.0%	0.04%	4	100.0%	0.01%

Gulf	Corpus Christi, TX	5	0	0.0%	0%	0	0.0%	0%
Atlant ic	Dania Cut Off Canal, FL	6	6	100.0%	0.06%	6	100.0%	0.02%
Gulf	East Pearl River, MS	9	9	100.0%	0.09%	9	100.0%	0.03%
Atlant ic	East River NY Upper NY Bay To USN Shipyard	77	59	76.6%	0.58%	59	76.6%	0.17%
Atlant ic	East River, NY/USN Shipyd, Excluding East Channel	11	11	100.0%	0.11%	11	100.0%	0.03%
Atlant ic	Eddystone, PA	208	0	0.0%	0%	0	0.0%	0%
Pacifi c	Everett Harbor, WA Outer Harbor	35	35	100.0%	0.35%	35	100.0%	0.10%
Atlant ic	Fernandina, FL	242	0	0.0%	0%	0	0.0%	0%
Gulf	Freeport Harbor, TX	555	0	0.0%	0%	0	0.0%	0%
Gulf	Galveston Channel, TX	187	0	0.0%	0%	181	96.8%	0.53%
Atlant ic	Gloucester, NJ	344	0	0.0%	0%	0	0.0%	0%
Atlant ic	Guayanilla Hbr, PR	21	12	57.1%	0.12%	12	57.1%	0.04%
Gulf	Gulfport Hbr & Ship Is Pass, MS	843	107	12.7%	1.06%	107	12.7%	0.31%
Pacifi c	Homer, AK	21	21	100.0%	0.21%	21	100.0%	0.06%
Pacifi c	Honolulu Hbr, Oahu, HI	793	0	0.0%	0%	0	0.0%	0%
Gulf	Houston Ship Channel, TX	2734	372	13.6%	3.68%	1393	51.0%	4.09%
Atlant ic	Hudson River Channel, NY & NJ/NY Shore W 40 To W 59 St, NY	17	5	29.4%	0.05%	5	29.4%	0.01%
Pacifi c	Humboldt Hbr & Bay, CA	6	6	100.0%	0.06%	6	100.0%	0.02%
Pacifi c	Icy Bay, AK	5	0	0.0%	0%	0	0.0%	0%
Gulf	Inner Harbor Navigation Canal, LA	1364	693	50.8%	6.86%	693	50.8%	2.03%
Atlant ic	Jacksonville Harbor, FL	1327	374	28.2%	3.70%	374	28.2%	1.10%
Atlant ic	James River, VA	198	96	48.5%	0.95%	96	48.5%	0.28%
Pacifi c	Juneau Gastineau Channel, AK	84	0	0.0%	0%	0	0.0%	0%
Pacifi c	Kalama, WA	13	0	0.0%	0%	13	100.0%	0.04%
Pacifi	Ketchikan, AK (Tongass	4	4	100.0%	0.04%	4	100.0%	0.01%

c	Narrows)							
Pacifi c	Kivilina, AK (coast)	10	0	0.0%	0%	0	0.0%	0%
Pacifi c	Long Beach Harbor, CA	3528	0	0.0%	0%	0	0.0%	0%
Pacifi c	Long Beach Outer Harbor, CA	4991	0	0.0%	0%	0	0.0%	0%
Pacifi c	Los Angeles Harbor, CA	8753	0	0.0%	0%	0	0.0%	0%
Atlant ic	Lower Delaware Bay, DE	2	0	0.0%	0%	0	0.0%	0%
Gulf	Lower Miss River Mile 118	4	0	0.0%	0%	0	0.0%	0%
Gulf	Lower Miss River Mile 132	5	0	0.0%	0%	0	0.0%	0%
Gulf	Lower Miss River Mile 138	20	0	0.0%	0%	0	0.0%	0%
Gulf	Lower Miss River Mile 139	3	0	0.0%	0%	0	0.0%	0%
Gulf	Lower Miss River Mile 187	2	0	0.0%	0%	0	0.0%	0%
Gulf	Lower Miss River Mile 203	2	0	0.0%	0%	0	0.0%	0%
Gulf	Lower Miss River Mile 210	3	0	0.0%	0%	0	0.0%	0%
Gulf	Lower Miss River Mile 61	10	0	0.0%	0%	0	0.0%	0%
Gulf	Lower Miss River Mile 72	6	0	0.0%	0%	0	0.0%	0%
Atlant ic	Marcus Hook, PA	10	0	0.0%	0%	0	0.0%	0%
Atlant ic	Miami Harbor, FL	5441	0	0.0%	0%	961	17.7%	2.82%
Atlant ic	Miami River, FL	155	112	72.3%	1.11%	112	72.3%	0.33%
Gulf	Mobile Harbor AL	91	0	0.0%	0%	0	0.0%	0%
Gulf	Mobile Harbor, AL Chickasaw Creek	3	0	0.0%	0%	0	0.0%	0%
Atlant ic	Morrisville, PA	5	5	100.0%	0.05%	5	100.0%	0.01%
Gulf	New Orleans, LA, Miles 88 Thru 106	562	0	0.0%	0%	12	2.1%	0.04%
Atlant ic	New York & New Jersey Channels Main Ship Chan To Smith Creek NJ	9	9	100.0%	0.09%	9	100.0%	0.03%
Atlant ic	New York & New Jersey Channels Piles Creek/to Kill Van Kull Exc Channels South/of Shooters Island	1231	0	0.0%	0%	1078	87.6%	3.16%
Atlant ic	New York & New Jersey Channels Smith Creek To Piles Creek NJ	47	47	100.0%	0.47%	47	100.0%	0.14%
Atlant ic	New York & New Jersey Channels/Housman Avenue	23	0	0.0%	0%	19	82.6%	0.06%

	To St George S I							
Atlant ic	Newark Bay NJ Offshore Connecting Channel/between Port Newark And Port Elizabeth/branch Channels	26	0	0.0%	0%	21	80.8%	0.06%
Atlant ic	Newark Bay NJ Port Newark Branch Channel	116	0	0.0%	0%	83	71.6%	0.24%
Atlant ic	Newark Bay NJ-port Elizabeth Branch Channel	6202	0	0.0%	0%	4562	73.6%	13.38%
Atlant ic	Newport News , VA	1035	0	0.0%	0%	0	0.0%	0%
Atlant ic	Norfolk Harbor, VA Portsmouth VA	6725	0	0.0%	0%	0	0.0%	0%
Atlant ic	Norfolk Hbr, VA Eastern Br Eliz R	4	0	0.0%	0%	0	0.0%	0%
Atlant ic	Norfolk Hbr, VA Southern Br Eliz R	2	0	0.0%	0%	0	0.0%	0%
Atlant ic	Northeast, Cape Fear River NC	5	0	0.0%	0%	0	0.0%	0%
Atlant ic	Northville L.I., NY	40	0	0.0%	0%	0	0.0%	0%
Pacifi c	Oakland Harbor, CA Codes 000-380, 400-835, & 840- 999	9500	0	0.0%	0%	6665	70.2%	19.55%
Pacifi c	Oregon Slough Oregon And Bay, OR	1400	1240	88.6%	12.28%	1240	88.6%	3.64%
Atlant ic	Palm Beach Harbor, FL	117	0	0.0%	0%	0	0.0%	0%
Gulf	Pascagoula Hbr, MS	16	0	0.0%	0%	0	0.0%	0%
Atlant ic	Paulsboro, NJ	3	0	0.0%	0%	0	0.0%	0%
Atlant ic	Philadelphia, PA On Delaware River/Allegheny Ave To Poquessing Creek	217	198	91.2%	1.96%	198	91.2%	0.58%
Atlant ic	Piscataqua River, NH	9	9	100.0%	0.09%	9	100.0%	0.03%
Atlant ic	Ponce Harbor, PR	525	211	40.2%	2.09%	211	40.2%	0.62%
Atlant ic	Port Everglades Hbr, FL	3364	158	4.7%	1.56%	158	4.7%	0.46%
Atlant ic	Port Royal, SC	6	6	100.0%	0.06%	6	100.0%	0.02%
Atlant ic	Portland Harbor, ME	12	12	100.0%	0.12%	12	100.0%	0.04%

Pacific	Portland, OR	40	8	20.0%	0.08%	8	20.0%	0.02%
Atlantic	Portsmouth Hbr, NH	3	3	100.0%	0.03%	3	100.0%	0.01%
Atlantic	Providence River and Harbor, RI	6	6	100.0%	0.06%	6	100.0%	0.02%
Atlantic	Raritan River NJ Main Channel/raritan Bay To Ostranders Dock/Keasby NJ	15	15	100.0%	0.15%	15	100.0%	0.04%
Pacific	Richmond Harbor, CA Outer Harbor, Codes 000-699	11	0	0.0%	0%	0	0.0%	0%
Atlantic	Salem River, NJ	258	258	100.0%	2.56%	258	100.0%	0.76%
Pacific	San Francisco Hbr, CA	770	19	2.5%	0.19%	19	2.5%	0.06%
Atlantic	San Juan Hbr, PR	1243	20	1.6%	0.20%	20	1.6%	0.06%
Atlantic	Savannah Harbor, GA	3989	352	8.8%	3.49%	2455	61.5%	7.20%
Atlantic	Schuylkill River Phila, PA Project	6	6	100.0%	0.06%	6	100.0%	0.02%
Atlantic	Searsport Hbr, Me	3	3	100.0%	0.03%	3	100.0%	0.01%
Pacific	Seattle Harbor, WA Duwamish River	66	66	100.0%	0.65%	66	100.0%	0.19%
Pacific	Seattle Harbor, WA East Waterway	2606	0	0.0%	0%	2431	93.3%	7.13%
Pacific	Seattle Harbor, WA Elliott Bay	589	589	100.0%	5.83%	589	100.0%	1.73%
Pacific	Seattle Harbor, WA West Waterway	641	523	81.6%	5.18%	523	81.6%	1.53%
Pacific	Seward, AK	8	8	100.0%	0.08%	8	100.0%	0.02%
Pacific	Skagway Harbor, AK	29	29	100.0%	0.29%	29	100.0%	0.09%
Pacific	Tacoma Harbor, WA	2154	989	45.9%	9.80%	2141	99.4%	6.28%
Gulf	Tampa Harbor, FL	146	0	0.0%	0%	0	0.0%	0%
Atlantic	Thru 04470 Philadelphia, PA On Delaware Rv/Hog Island To Allegheny Ave	565	0	0.0%	0%	28	5.0%	0.08%
Gulf	Thru 66540 Galveston To Corpus Christi	29	29	100.0%	0.29%	29	100.0%	0.09%

Pacific	Unak Bay & Island, AK/(Iliuliuk & Dutch Hbr.)	134	134	100.0%	1.33%	134	100.0%	0.39%
Atlantic	Upper Bay, NY Narrows To/Municipal Ferry Dock St Geo Si/exc Bay Ridge Red Hook & Buttermilk Channels	294	0	0.0%	0%	48	16.3%	0.14%
Atlantic	Upper Bay, NY/Bayonne NJ To Claremont NJ/bay Ridge Flats And Bedloes Is	1016	0	0.0%	0%	78	7.7%	0.23%
Atlantic	Wando River, SC	4085	1380	33.8%	13.67%	3716	91.0%	10.90%
Pacific	Whittier, AK	4	0	0.0%	0%	0	0.0%	0%
Atlantic	Wilmington Harbor, NC	517	384	74.3%	3.80%	408	78.9%	1.20%

Appendix C-2A
Analysis of Dry Bulk Vessel Constraints, 2000

Coast Name	Port Name/Location Name	Number of calls	Constrained Calls with Projects	Percent of Calls Constrained	Percent of Total Constrained Calls	Constrained Calls without Projects	Percent of Calls Constrained	Percent of Total Constrained Calls
Pacific	Afognak Island, AK	16	0	0%	0%	0	0%	0%
Great Lakes	Alabaster, MI	32	32	100%	0.25%	32	100%	0.25%
Atlantic	Albany, NY	24	20	83.33%	0.16%	20	83.33%	0.16%
Great Lakes	Alpena, MI	14	4	28.57%	0.03%	4	28.57%	0.03%
Pacific	Anacortes Harbor, WA	26	2	7.69%	0.02%	2	7.69%	0.02%
Atlantic	Asharoken, L I	2	0	0%	0%	0	0%	0%
Great Lakes	Ashtabula Harbor, OH	172	168	97.67%	1.33%	168	97.67%	1.33%
Pacific	Astoria, OR	30	16	53.33%	0.13%	16	53.33%	0.13%
Atlantic	Baltimore Hbr and Channels, MD	774	88	11.37%	0.70%	88	11.37%	0.70%
Pacific	Barbers Point Channel Oahu	26	12	46.15%	0.09%	12	46.15%	0.09%
Gulf	Baton Rouge, LA Miles 226 Thru 235	240	66	27.50%	0.52%	66	27.50%	0.52%
Gulf	Bayou Casotte, MS	112	102	91.07%	0.81%	102	91.07%	0.81%
Gulf	Beaumont, TX	240	170	70.83%	1.34%	170	70.83%	1.34%
Pacific	Bellingham Bay & Harbor, WA/Whatcom Creek Waterway	30	30	100%	0.24%	30	100%	0.24%
Atlantic	Boston MA Island End River	10	0	0%	0%	0	0%	0%
Atlantic	Boston MA Town River	2	2	100%	0.02%	2	100%	0.02%
Atlantic	Boston, MA Chelsea River	44	28	63.64%	0.22%	28	63.64%	0.22%
Atlantic	Boston, MA Main Water Front	36	0	0%	0%	0	0%	0%
Atlantic	Boston, MA Mystic River	66	14	21.21%	0.11%	14	21.21%	0.11%
Atlantic	Boston, MA Weymouth Fore River	2	2	100%	0.02%	2	100%	0.02%
Atlantic	Bridgeport, CT Main	12	12	100%	0.09%	12	100%	0.09%

Appendix C-2A
Analysis of Dry Bulk Vessel Constraints, 2000

Coast Name	Port Name/Location Name	Number of calls	Constrained Calls with Projects	Percent of Calls Constrained	Percent of Total Constrained Calls	Constrained Calls without Projects	Percent of Calls Constrained	Percent of Total Constrained Calls
ic	Harbor							
Gulf	Brownsville Ship Channel, TX	208	128	61.54%	1.01%	128	61.54%	1.01%
Atlant ic	Brunswick Hbr, GA	190	172	90.53%	1.36%	172	90.53%	1.36%
Great Lakes	Buffalo Harbor, NY	34	16	47.06%	0.13%	16	47.06%	0.13%
Atlant ic	Burlington, NJ	24	6	25.00%	0.05%	6	25.00%	0.05%
Great Lakes	Burns Waterway Harbor, IN	196	196	100%	1.55%	196	100%	1.55%
Atlant ic	Buttermilk Channel, NY	54	28	51.85%	0.22%	28	51.85%	0.22%
Gulf	Calcasieu River and Pass Lake Charles, LA	34	28	82.35%	0.22%	28	82.35%	0.22%
Great Lakes	Calcite, MI	122	122	100%	0.96%	122	100%	0.96%
Atlant ic	Camden, NJ	166	46	27.71%	0.36%	46	27.71%	0.36%
Atlant ic	Canaveral Harbor, FL	194	18	9.28%	0.14%	18	9.28%	0.14%
Gulf	Canaveral Harbor, FL	2	0	0%	0%	0	0%	0%
Pacifi c	Carquinez Strait, CA	68	6	8.82%	0.05%	6	8.82%	0.05%
Atlant ic	Catskill, NY	4	4	100%	0.03%	4	100%	0.03%
Atlant ic	Cementon, NY	30	30	100%	0.24%	30	100%	0.24%
Atlant ic	Charleston Ashley River, SC	8	6	75.00%	0.05%	6	75.00%	0.05%
Atlantic	Charleston Cooper River, SC	238	100	42.02%	0.79%	100	42.02%	0.79%
Atlantic	Charleston Shipyard River, SC	4	2	50.00%	0.02%	2	50.00%	0.02%
Great Lakes	Charlevoix Michigan Ironton, MI	10	4	40.00%	0.03%	4	40.00%	0.03%
Atlantic	Chesapeake Bay Open Waters	18	8	44.44%	0.06%	8	44.44%	0.06%
Atlantic	Christina River Wilmington De	138	94	68.12%	0.74%	94	68.12%	0.74%

Appendix C-2A
Analysis of Dry Bulk Vessel Constraints, 2000

Coast Name	Port Name/Location Name	Number of calls	Constrained Calls with Projects	Percent of Calls Constrained	Percent of Total Constrained Calls	Constrained Calls without Projects	Percent of Calls Constrained	Percent of Total Constrained Calls
Atlantic	Claymont, DE	30	0	0%	0%	0	0%	0%
Great Lakes	Cleveland Harbor, OH	336	322	95.83%	2.55%	322	95.83%	2.55%
Atlantic	Coeymans, NY	20	2	10.00%	0.02%	2	10.00%	0.02%
Great Lakes	Conneaut Harbor, OH	246	246	100%	1.94%	246	100%	1.94%
Atlantic	Cooper River Above Charleston Hbr	18	0	0%	0%	0	0%	0%
Pacific	Coos Bay, OR Inside Channel To/Millington, OR	136	136	100%	1.08%	136	100%	1.08%
Gulf	Corpus Christi, TX	548	216	39.42%	1.71%	216	39.42%	1.71%
Atlantic	Davisville, RI	4	4	100%	0.03%	4	100%	0.03%
Great Lakes	Dearborn MI See Rouge Riv/Rouge River MI Dearborn MI	130	122	93.85%	0.96%	122	93.85%	0.96%
Atlantic	Delaware City, DE	8	8	100%	0.06%	8	100%	0.06%
Great Lakes	Detroit, MI	316	274	86.71%	2.17%	274	86.71%	2.17%
Great Lakes	Duluth, MN	204	198	97.06%	1.57%	198	97.06%	1.57%
Atlantic	Eagle Point Westville, NJ	14	14	100%	0.11%	14	100%	0.11%
Atlantic	East River NY Upper NY Bay To USN Shipyard	46	8	17.39%	0.06%	8	17.39%	0.06%
Atlantic	East River, NY/USN Shipyd, Excluding East Channel	74	14	18.92%	0.11%	14	18.92%	0.11%
Atlantic	Eastport Hbr, ME	62	24	38.71%	0.19%	24	38.71%	0.19%
Great Lakes	Ecorse, MI	72	72	100%	0.57%	72	100%	0.57%
Atlantic	Eddystone, PA	16	2	12.50%	0.02%	2	12.50%	0.02%
Pacific	El Segundo, CA	2	0	0%	0%	0	0%	0%
Great Lakes	Erie Harbor, PA	8	8	100%	0.06%	8	100%	0.06%
Great Lakes	Essexville, MI	46	6	13.04%	0.05%	6	13.04%	0.05%
Pacific	Everett Harbor, WA Outer Harbor	44	42	95.45%	0.33%	42	95.45%	0.33%

Appendix C-2A
Analysis of Dry Bulk Vessel Constraints, 2000

Coast Name	Port Name/Location Name	Number of calls	Constrained Calls with Projects	Percent of Calls Constrained	Percent of Total Constrained Calls	Constrained Calls without Projects	Percent of Calls Constrained	Percent of Total Constrained Calls
Atlantic	Fajardo Hbr, PR	22	22	100%	0.17%	22	100%	0.17%
Atlantic	Fall River Hbr, MA	28	22	78.57%	0.17%	22	78.57%	0.17%
Atlantic	Fernandina, FL	40	34	85.00%	0.27%	34	85.00%	0.27%
Pacific	Ferndale, WA	32	0	0%	0%	0	0%	0%
Gulf	Freeport Harbor, TX	110	70	63.64%	0.55%	70	63.64%	0.55%
Gulf	Galveston Channel, TX	116	38	32.76%	0.30%	38	32.76%	0.30%
Great Lakes	Gary, IN	12	12	100%	0.09%	12	100%	0.09%
Atlantic	Gloucester, NJ	44	24	54.55%	0.19%	24	54.55%	0.19%
Great Lakes	Grand Haven Harbor, MI	50	50	100%	0.40%	50	100%	0.40%
Pacific	Grays Harbor, & Chehalis River Wa/North Aberdeen And North Channel	24	24	100%	0.19%	24	100%	0.19%
Pacific	Grays Hbr & Chehalis River, WA South Aberdeen	64	64	100%	0.51%	64	100%	0.51%
Great Lakes	Green Bay, WI	2	2	100%	0.02%	2	100%	0.02%
Atlantic	Guanica Hbr, PR	14	14	100%	0.11%	14	100%	0.11%
Atlantic	Guayanilla Hbr, PR	16	16	100%	0.13%	16	100%	0.13%
Gulf	Gulf Outlet Miles 70-73	52	32	61.54%	0.25%	32	61.54%	0.25%
Gulf	Gulfport Hbr & Ship Is Pass, MS	106	88	83.02%	0.70%	88	83.02%	0.70%
Pacific	Homer, AK	4	4	100%	0.03%	4	100%	0.03%
Pacific	Honolulu Hbr, Oahu, HI	32	10	31.25%	0.08%	10	31.25%	0.08%
Gulf	Houston Ship Channel, TX	1,596	782	49.00%	6.18%	782	49.00%	6.18%
Atlantic	Hudson River, NY & NJ Yonkers NY	10	2	20.00%	0.02%	2	20.00%	0.02%
Pacific	Humboldt Hbr & Bay, CA	80	68	85.00%	0.54%	68	85.00%	0.54%
Great Lakes	Huron Harbor, OH	8	8	100%	0.06%	8	100%	0.06%
Pacific	Icy Bay, AK	26	0	0%	0%	0	0%	0%
Great Lakes	Indiana Harbor Indiana East Chicago, IN	48	48	100%	0.38%	48	100%	0.38%
Gulf	Inner Harbor Navigation Canal, LA	72	70	97.22%	0.55%	70	97.22%	0.55%

Appendix C-2A
Analysis of Dry Bulk Vessel Constraints, 2000

Coast Name	Port Name/Location Name	Number of calls	Constrained Calls with Projects	Percent of Calls Constrained	Percent of Total Constrained Calls	Constrained Calls without Projects	Percent of Calls Constrained	Percent of Total Constrained Calls
Atlantic	Jacksonville Harbor, FL	420	242	57.62%	1.91%	242	57.62%	1.91%
Atlantic	James River & Port of Hopewell, VA	8	8	100%	0.06%	8	100%	0.06%
Atlantic	James River, VA	18	6	33.33%	0.05%	6	33.33%	0.05%
Atlantic	Jobos Hbr, PR	2	2	100%	0.02%	2	100%	0.02%
Pacific	Juneau Gastineau Channel, AK	4	4	100%	0.03%	4	100%	0.03%
Pacific	Kalama, WA	252	170	67.46%	1.34%	170	67.46%	1.34%
Pacific	Ketchikan, AK (Tongass Narrows)	2	2	100%	0.02%	2	100%	0.02%
Great Lakes	Lake Calumet, IL	14	14	100%	0.11%	14	100%	0.11%
Pacific	Little Sandy River, OR	2	2	100%	0.02%	2	100%	0.02%
Pacific	Long Beach Harbor, CA	394	8	2.03%	0.06%	8	2.03%	0.06%
Pacific	Long Beach Outer Harbor, CA	270	0	0%	0%	0	0%	0%
Pacific	Longview (Mt. Coffin)	70	58	82.86%	0.46%	58	82.86%	0.46%
Pacific	Longview, WA	376	114	30.32%	0.90%	114	30.32%	0.90%
Great Lakes	Lorain Harbor, OH	30	30	100%	0.24%	30	100%	0.24%
Pacific	Los Angeles Harbor, CA	590	0	0%	0%	0	0%	0%
Atlantic	Lower Delaware Bay, DE	22	18	81.82%	0.14%	18	81.82%	0.14%
Gulf	Lower Miss River Mile 108	24	12	50.00%	0.09%	12	50.00%	0.09%
Gulf	Lower Miss River Mile 116	2	0	0%	0%	0	0%	0%
Gulf	Lower Miss River Mile 118	4	4	100%	0.03%	4	100%	0.03%
Gulf	Lower Miss River Mile 120	700	222	31.71%	1.75%	222	31.71%	1.75%
Gulf	Lower Miss River Mile 125	2	2	100%	0.02%	2	100%	0.02%
Gulf	Lower Miss River Mile 126	4	2	50.00%	0.02%	2	50.00%	0.02%
Gulf	Lower Miss River Mile 128	60	30	50.00%	0.24%	30	50.00%	0.24%
Gulf	Lower Miss River Mile 132	4	2	50.00%	0.02%	2	50.00%	0.02%

Appendix C-2A
Analysis of Dry Bulk Vessel Constraints, 2000

Coast Name	Port Name/Location Name	Number of calls	Constrained Calls with Projects	Percent of Calls Constrained	Percent of Total Constrained Calls	Constrained Calls without Projects	Percent of Calls Constrained	Percent of Total Constrained Calls
Gulf	Lower Miss River Mile 138	38	20	52.63%	0.16%	20	52.63%	0.16%
Gulf	Lower Miss River Mile 139	510	170	33.33%	1.34%	170	33.33%	1.34%
Gulf	Lower Miss River Mile 140	10	10	100%	0.08%	10	100%	0.08%
Gulf	Lower Miss River Mile 144	10	10	100%	0.08%	10	100%	0.08%
Gulf	Lower Miss River Mile 145	34	20	58.82%	0.16%	20	58.82%	0.16%
Gulf	Lower Miss River Mile 146	12	0	0%	0%	0	0%	0%
Gulf	Lower Miss River Mile 148	28	14	50.00%	0.11%	14	50.00%	0.11%
Gulf	Lower Miss River Mile 150	100	14	14.00%	0.11%	14	14.00%	0.11%
Gulf	Lower Miss River Mile 158	144	14	9.72%	0.11%	14	9.72%	0.11%
Gulf	Lower Miss River Mile 159	10	4	40.00%	0.03%	4	40.00%	0.03%
Gulf	Lower Miss River Mile 166	92	18	19.57%	0.14%	18	19.57%	0.14%
Gulf	Lower Miss River Mile 167	82	12	14.63%	0.09%	12	14.63%	0.09%
Gulf	Lower Miss River Mile 168	2	2	100%	0.02%	2	100%	0.02%
Gulf	Lower Miss River Mile 169	118	36	30.51%	0.28%	36	30.51%	0.28%
Gulf	Lower Miss River Mile 173	2	0	0%	0%	0	0%	0%
Gulf	Lower Miss River Mile 187	6	6	100%	0.05%	6	100%	0.05%
Gulf	Lower Miss River Mile 2	12	2	16.67%	0.02%	2	16.67%	0.02%
Gulf	Lower Miss River Mile 203	4	0	0%	0%	0	0%	0%
Gulf	Lower Miss River Mile 205	8	0	0%	0%	0	0%	0%
Gulf	Lower Miss River Mile 27	4	4	100%	0.03%	4	100%	0.03%

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Analysis of Dry Bulk Vessel Constraints, 2000

Coast Name	Port Name/Location Name	Number of calls	Constrained Calls with Projects	Percent of Calls Constrained	Percent of Total Constrained Calls	Constrained Calls without Projects	Percent of Calls Constrained	Percent of Total Constrained Calls
Gulf	Lower Miss River Mile 53	32	10	31.25%	0.08%	10	31.25%	0.08%
Gulf	Lower Miss River Mile 55	126	56	44.44%	0.44%	56	44.44%	0.44%
Gulf	Lower Miss River Mile 57	106	36	33.96%	0.28%	36	33.96%	0.28%
Gulf	Lower Miss River Mile 61	224	88	39.29%	0.70%	88	39.29%	0.70%
Gulf	Lower Miss River Mile 72	66	30	45.45%	0.24%	30	45.45%	0.24%
Gulf	Lower Miss River Mile 83	98	20	20.41%	0.16%	20	20.41%	0.16%
Gulf	Lower Miss River Mile 87	6	6	100%	0.05%	6	100%	0.05%
Great Lakes	Ludington Harbor, MI	20	20	100%	0.16%	20	100%	0.16%
Great Lakes	Marblehead, OH	56	56	100%	0.44%	56	100%	0.44%
Atlantic	Marcus Hook, PA	12	6	50.00%	0.05%	6	50.00%	0.05%
Great Lakes	Marine City, MI	12	12	100%	0.09%	12	100%	0.09%
Great Lakes	Marysville, MI	56	54	96.43%	0.43%	54	96.43%	0.43%
Gulf	Matagorda Ship Channel, TX	184	168	91.30%	1.33%	168	91.30%	1.33%
Atlantic	Mayaguez Hbr, PR	28	14	50.00%	0.11%	14	50.00%	0.11%
Atlantic	Miami Harbor, FL	134	2	1.49%	0.02%	2	1.49%	0.02%
Atlantic	Miami River, FL	16	12	75.00%	0.09%	12	75.00%	0.09%
Gulf	Michoud Canal, LA	78	48	61.54%	0.38%	48	61.54%	0.38%
Great Lakes	Milwaukee, WI	160	160	100%	1.26%	160	100%	1.26%
Gulf	Mobile Harbor AL	298	78	26.17%	0.62%	78	26.17%	0.62%
Great Lakes	Monroe Harbor, MI	28	24	85.71%	0.19%	24	85.71%	0.19%
Atlantic	Morehead City Hbr, NC	84	20	23.81%	0.16%	20	23.81%	0.16%
Atlantic	Morrisville, PA	182	180	98.90%	1.42%	180	98.90%	1.42%
Great Lakes	Muskegon Harbor, MI	54	54	100%	0.43%	54	100%	0.43%
Atlantic	New Bedford & Fairhaven Hbr, MA	2	2	100%	0.02%	2	100%	0.02%

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Analysis of Dry Bulk Vessel Constraints, 2000

Coast Name	Port Name/Location Name	Number of calls	Constrained Calls with Projects	Percent of Calls Constrained	Percent of Total Constrained Calls	Constrained Calls without Projects	Percent of Calls Constrained	Percent of Total Constrained Calls
Atlantic	New Haven, CT Main Harbor	62	58	93.55%	0.46%	58	93.55%	0.46%
Gulf	New Orleans, LA, Miles 88 Thru 106	1,148	204	17.77%	1.61%	204	17.77%	1.61%
Atlantic	New York & New Jersey Channels Main Ship Chan To Smith Creek NJ	16	12	75.00%	0.09%	12	75.00%	0.09%
Atlantic	New York & New Jersey Channels Piles Creek/to Kill Van Kull Exc Channels South/of Shooters Island	38	30	78.95%	0.24%	30	78.95%	0.24%
Atlantic	New York & New Jersey Channels Smith Creek To Piles Creek NJ	6	4	66.67%	0.03%	4	66.67%	0.03%
Atlantic	New York & New Jersey Channels/Housman Avenue To St George S I	14	8	57.14%	0.06%	8	57.14%	0.06%
Atlantic	Newark Bay NJ Offshore Connecting Channel/between Port Newark And Port Elizabeth/branch Channels	64	40	62.50%	0.32%	40	62.50%	0.32%
Atlantic	Newark Bay NJ Port Newark Branch Channel	34	18	52.94%	0.14%	18	52.94%	0.14%
Atlantic	Newark Bay NJ-port Elizabeth Branch Channel	28	16	57.14%	0.13%	16	57.14%	0.13%
Atlantic	Newport News , VA	202	50	24.75%	0.40%	50	24.75%	0.40%
Pacific	Nikishki, AK	36	2	5.56%	0.02%	2	5.56%	0.02%
Atlantic	Norfolk Harbor, VA Portsmouth VA	548	234	42.70%	1.85%	234	42.70%	1.85%
Atlantic	Norfolk Hbr, VA Southern Br Eliz R	136	0	0%	0%	0	0%	0%

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Analysis of Dry Bulk Vessel Constraints, 2000

Coast Name	Port Name/Location Name	Number of calls	Constrained Calls with Projects	Percent of Calls Constrained	Percent of Total Constrained Calls	Constrained Calls without Projects	Percent of Calls Constrained	Percent of Total Constrained Calls
Atlantic	Northeast, Cape Fear River NC	26	12	46.15%	0.09%	12	46.15%	0.09%
Atlantic	Northville L.I., NY	6	0	0%	0%	0	0%	0%
Pacific	Oakland Harbor, CA Codes 000-380, 400-835, & 840-999	206	12	5.83%	0.09%	12	5.83%	0.09%
Great Lakes	Ogdensburg Harbor, NY	8	8	100%	0.06%	8	100%	0.06%
Pacific	Olympia Harbor, WA	14	14	100%	0.11%	14	100%	0.11%
Pacific	Oregon Slough Oregon And Bay, OR	48	20	41.67%	0.16%	20	41.67%	0.16%
Great Lakes	Oswego Harbor, NY	40	14	35.00%	0.11%	14	35.00%	0.11%
Atlantic	Palm Beach Harbor, FL	14	0	0%	0%	0	0%	0%
Gulf	Panama City Harbor, FL	118	92	77.97%	0.73%	92	77.97%	0.73%
Gulf	Pascagoula Hbr, MS	2	2	100%	0.02%	2	100%	0.02%
Atlantic	Paulsboro, NJ	6	6	100%	0.05%	6	100%	0.05%
Atlantic	Penobscot River, ME	2	2	100%	0.02%	2	100%	0.02%
Gulf	Pensacola Hbr, FL	6	6	100%	0.05%	6	100%	0.05%
Atlantic	Philadelphia, PA On Delaware River/Allegheny Ave To Poquessing Creek	4	0	0%	0%	0	0%	0%
Atlantic	Piscataqua River, NH	68	68	100%	0.54%	68	100%	0.54%
Pacific	Pittsburg, CA	84	84	100%	0.66%	84	100%	0.66%
Atlantic	Plymouth Harbor, MA	2	2	100%	0.02%	2	100%	0.02%
Atlantic	Ponce Harbor, PR	72	46	63.89%	0.36%	46	63.89%	0.36%
Pacific	Port Angeles Harbor, WA	28	0	0%	0%	0	0%	0%
Gulf	Port Arthur, TX	164	50	30.49%	0.40%	50	30.49%	0.40%
Great Lakes	Port Dolomite, MI	22	22	100%	0.17%	22	100%	0.17%
Atlantic	Port Everglades Hbr, FL	354	6	1.69%	0.05%	6	1.69%	0.05%
Pacific	Port Hueneme, CA	28	28	100%	0.22%	28	100%	0.22%
Great Lakes	Port Huron, MI	4	4	100%	0.03%	4	100%	0.03%
Great Lakes	Port Inland, MI	46	46	100%	0.36%	46	100%	0.36%

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Analysis of Dry Bulk Vessel Constraints, 2000

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Gulf	Port Manatee, FL	82	34	41.46%	0.27%	34	41.46%	0.27%
Atlantic	Port Royal, SC	56	30	53.57%	0.24%	30	53.57%	0.24%
Atlantic	Portland Harbor, Fore River, ME	8	4	50.00%	0.03%	4	50.00%	0.03%
Atlantic	Portland Harbor, ME	114	112	98.25%	0.89%	112	98.25%	0.89%
Pacific	Portland, OR	824	258	31.31%	2.04%	258	31.31%	2.04%
Atlantic	Portsmouth Hbr, NH	16	14	87.50%	0.11%	14	87.50%	0.11%
Great Lakes	Presque Isle Harbor, MI	296	296	100%	2.34%	296	100%	2.34%
Atlantic	Providence River and Harbor, RI	88	14	15.91%	0.11%	14	15.91%	0.11%
Pacific	Redwood City Hbr, CA	34	34	100%	0.27%	34	100%	0.27%
Atlantic	Rensselaer, NY	12	12	100%	0.09%	12	100%	0.09%
Pacific	Revillagigedo Channel	4	2	50.00%	0.02%	2	50.00%	0.02%
Pacific	Richmond Harbor, CA Outer Harbor, Codes 000-699	148	16	10.81%	0.13%	16	10.81%	0.13%
Great Lakes	Saginaw, MI	90	90	100%	0.71%	90	100%	0.71%
Atlantic	Salem Harbor, MA	30	30	100%	0.24%	30	100%	0.24%
Pacific	San Diego Harbor, CA	136	76	55.88%	0.60%	76	55.88%	0.60%
Pacific	San Francisco Hbr, CA	22	12	54.55%	0.09%	12	54.55%	0.09%
Atlantic	San Juan Hbr, PR	194	52	26.80%	0.41%	52	26.80%	0.41%
Great Lakes	Sandusky Harbor, OH	228	228	100%	1.80%	228	100%	1.80%
Great Lakes	Sault Ste Marie, MI	4	4	100%	0.03%	4	100%	0.03%
Atlantic	Savannah Harbor, GA	546	24	4.40%	0.19%	24	4.40%	0.19%
Atlantic	Schuylkill River Phila, PA Project	2	0	0%	0%	0	0%	0%
Atlantic	Searsport Hbr, Me	16	14	87.50%	0.11%	14	87.50%	0.11%
Pacific	Seattle Harbor, WA Duwamish River	50	42	84.00%	0.33%	42	84.00%	0.33%
Pacific	Seattle Harbor, WA East Waterway	68	36	52.94%	0.28%	36	52.94%	0.28%
Pacific	Seattle Harbor, WA Elliott Bay	82	82	100%	0.65%	82	100%	0.65%
Pacific	Seattle Harbor, WA Harbor Island	2	0	0%	0%	0	0%	0%
Pacific	Seattle Harbor, WA	116	116	100%	0.92%	116	100%	0.92%

Appendix C-2A
Analysis of Dry Bulk Vessel Constraints, 2000

Coast Name	Port Name/Location Name	Number of calls	Constrained Calls with Projects	Percent of Calls Constrained	Percent of Total Constrained Calls	Constrained Calls without Projects	Percent of Calls Constrained	Percent of Total Constrained Calls
	West Waterway							
Pacific	Seward, AK	20	20	100%	0.16%	20	100%	0.16%
Great Lakes	Silver Bay, MN	2	2	100%	0.02%	2	100%	0.02%
Great Lakes	St Ignace, MI	2	0	0%	0%	0	0%	0%
Pacific	Steilacoom, WA	4	0	0%	0%	0	0%	0%
Pacific	Stockton, CA	130	118	90.77%	0.93%	118	90.77%	0.93%
Great Lakes	Stoneport, MI	30	30	100%	0.24%	30	100%	0.24%
Pacific	Suisun Bay Channel, CA	2	0	0%	0%	0	0%	0%
Great Lakes	Superior, WI	398	368	92.46%	2.91%	368	92.46%	2.91%
Pacific	Tacoma Harbor, WA	444	224	50.45%	1.77%	224	50.45%	1.77%
Gulf	Tampa Harbor, FL	470	74	15.74%	0.58%	74	15.74%	0.58%
Gulf	Texas City, TX	128	96	75.00%	0.76%	96	75.00%	0.76%
Atlantic	Thru 04470 Philadelphia, PA On Delaware Rv/Hog Island To Allegheny Ave	290	108	37.24%	0.85%	108	37.24%	0.85%
Gulf	Thru 66540 Giww Galveston To Corpus Christi	26	16	61.54%	0.13%	16	61.54%	0.13%
Great Lakes	Thru 77647 Port Of Chicago Il/calumet Harbor, & River Il & In-south Chicago	290	290	100%	2.29%	290	100%	2.29%
Great Lakes	Toledo, OH	522	496	95.02%	3.92%	496	95.02%	3.92%
Atlantic	Tullytown, PA	16	10	62.50%	0.08%	10	62.50%	0.08%
Pacific	Unak Bay & Island, AK/(Iliuliuk & Dutch Hbr.)	4	4	100%	0.03%	4	100%	0.03%
Atlantic	Upper Bay, NY Narrows To/Municipal Ferry Dock St Geo Si/exc Bay Ridge Red Hook & Buttermilk	226	108	47.79%	0.85%	108	47.79%	0.85%

Appendix C-2A
Analysis of Dry Bulk Vessel Constraints, 2000

Coast Name	Port Name/Location Name	Number of calls	Constrained Calls with Projects	Percent of Calls Constrained	Percent of Total Constrained Calls	Constrained Calls without Projects	Percent of Calls Constrained	Percent of Total Constrained Calls
	Channels							
Atlantic	Upper Bay, NY/Bayonne NJ To Claremont NJ/bay Ridge Flats And Bedloes Is	18	4	22.22%	0.03%	4	22.22%	0.03%
Pacific	Vancouver, WA	376	100	26.60%	0.79%	100	26.60%	0.79%
Atlantic	Wando River, SC	64	30	46.88%	0.24%	30	46.88%	0.24%
Atlantic	Wilmington Harbor, NC	232	150	64.66%	1.19%	150	64.66%	1.19%
Pacific	Yolo Port District, CA	86	80	93.02%	0.63%	80	93.02%	0.63%
Atlantic	York River, VA	2	2	100%	0.02%	2	100%	0.02%

Appendix C-2B
Analysis of Dry Bulk Vessel Constraints, 2010

Coast Name	Port Name/Location Name	Number of calls	Constrained Calls with Projects	Percent of Calls Constrained	Percent of Total Constrained Calls	Constrained Calls without Projects	Percent of Calls Constrained	Percent of Total Constrained Calls
Pacific	Afognak Island, AK	16	0	0%	0%	0	0%	0%
Great Lakes	Alabaster, MI	38	38	100%	0.33%	38	100%	0.26%
Atlantic	Albany, NY	28	24	85.71%	0.21%	24	85.71%	0.16%
Great Lakes	Alpena, MI	18	6	33.33%	0.05%	6	33.33%	0.04%
Pacific	Anacortes Harbor, WA	25	2	8.00%	0.02%	2	8.00%	0.01%
Atlantic	Asharoken, L I	2	0	0%	0%	0	0%	0%
Great Lakes	Ashtabula Harbor, OH	163	160	98.16%	1.38%	160	98.16%	1.08%
Pacific	Astoria, OR	38	4	10.53%	0.03%	21	55.26%	0.14%
Atlantic	Baltimore Hbr and Channels, MD	913	88	9.64%	0.76%	88	9.64%	0.59%
Pacific	Barbers Point Channel Oahu	38	16	42.11%	0.14%	16	42.11%	0.11%
Gulf	Baton Rouge, LA Miles 226 Thru 235	309	22	7.12%	0.19%	80	25.89%	0.54%
Gulf	Bayou Casotte, MS	137	125	91.24%	1.08%	125	91.24%	0.84%
Gulf	Beaumont, TX	275	193	70.18%	1.66%	193	70.18%	1.30%
Pacific	Bellingham Bay & Harbor, WA/Whatcom Creek Waterway	38	38	100%	0.33%	38	100%	0.26%
Atlantic	Boston MA Island End River	14	0	0%	0%	0	0%	0%
Atlantic	Boston MA Town River	3	3	100%	0.03%	3	100%	0.02%
Atlantic	Boston, MA Chelsea River	56	35	62.50%	0.30%	35	62.50%	0.24%
Atlantic	Boston, MA Main Water Front	57	0	0%	0%	0	0%	0%
Atlantic	Boston, MA Mystic River	83	17	20.48%	0.15%	17	20.48%	0.11%
Atlantic	Boston, MA Weymouth Fore River	3	3	100%	0.03%	3	100%	0.02%

Appendix C-2B
Analysis of Dry Bulk Vessel Constraints, 2010

Coast Name	Port Name/Location Name	Number of calls	Constrained Calls with Projects	Percent of Calls Constrained	Percent of Total Constrained Calls	Constrained Calls without Projects	Percent of Calls Constrained	Percent of Total Constrained Calls
Atlantic	Bridgeport, CT Main Harbor	15	15	100%	0.13%	15	100%	0.10%
Gulf	Brownsville Ship Channel, TX	249	157	63.05%	1.35%	157	63.05%	1.06%
Atlantic	Brunswick Hbr, GA	241	164	68.05%	1.41%	213	88.38%	1.43%
Great Lakes	Buffalo Harbor, NY	49	19	38.78%	0.16%	19	38.78%	0.13%
Atlantic	Burlington, NJ	28	7	25.00%	0.06%	7	25.00%	0.05%
Great Lakes	Burns Waterway Harbor, IN	213	213	100%	1.84%	213	100%	1.43%
Atlantic	Buttermilk Channel, NY	74	39	52.70%	0.34%	39	52.70%	0.26%
Gulf	Calcasieu River and Pass Lake Charles, LA	45	37	82.22%	0.32%	37	82.22%	0.25%
Great Lakes	Calcite, MI	149	149	100%	1.28%	149	100%	1.00%
Atlantic	Camden, NJ	226	7	3.10%	0.06%	64	28.32%	0.43%
Atlantic	Canaveral Harbor, FL	277	24	8.66%	0.21%	24	8.66%	0.16%
Gulf	Canaveral Harbor, FL	3	0	0%	0%	0	0%	0%
Pacific	Carquinez Strait, CA	70	8	11.43%	0.07%	8	11.43%	0.05%
Atlantic	Catskill, NY	5	5	100%	0.04%	5	100%	0.03%
Atlantic	Cementon, NY	43	43	100%	0.37%	43	100%	0.29%
Atlantic	Charleston Ashley River, SC	10	8	80.00%	0.07%	8	80.00%	0.05%
Atlantic	Charleston Cooper River, SC	318	13	4.09%	0.11%	140	44.03%	0.94%
Atlantic	Charleston Shipyard River, SC	5	3	60.00%	0.03%	3	60.00%	0.02%
Great Lakes	Charlevoix Michigan Ironton, MI	12	5	41.67%	0.04%	5	41.67%	0.03%
Atlantic	Chesapeake Bay Open Waters	22	7	31.82%	0.06%	7	31.82%	0.05%
Atlantic	Claymont, DE	37	0	0%	0%	0	0%	0%

Appendix C-2B
Analysis of Dry Bulk Vessel Constraints, 2010

Coast Name	Port Name/Location Name	Number of calls	Constrained Calls with Projects	Percent of Calls Constrained	Percent of Total Constrained Calls	Constrained Calls without Projects	Percent of Calls Constrained	Percent of Total Constrained Calls
ic								
Great Lakes	Cleveland Harbor, OH	401	377	94.01%	3.25%	377	94.01%	2.53%
Atlantic	Coeymans, NY	23	2	8.70%	0.02%	2	8.70%	0.01%
Great Lakes	Conneaut Harbor, OH	223	223	100%	1.92%	223	100%	1.50%
Atlantic	Cooper River Above Charleston Hbr	21	0	0%	0%	0	0%	0%
Pacific	Coos Bay, OR Inside Channel To/Millington, OR	114	114	100%	0.98%	114	100%	0.77%
Gulf	Corpus Christi, TX	658	191	29.03%	1.65%	258	39.21%	1.73%
Atlantic	Davisville, RI	5	5	100%	0.04%	5	100%	0.03%
Great Lakes	Dearborn MI See Rouge Riv/Rouge River MI Dearborn MI	163	151	92.64%	1.30%	151	92.64%	1.01%
Atlantic	Delaware City, DE	8	8	100%	0.07%	8	100%	0.05%
Great Lakes	Detroit, MI	387	316	81.65%	2.72%	316	81.65%	2.12%
Great Lakes	Duluth, MN	251	243	96.81%	2.10%	243	96.81%	1.63%
Atlantic	Eagle Point Westville, NJ	15	13	86.67%	0.11%	15	100%	0.10%
Atlantic	East River NY Upper NY Bay To USN Shipyard	66	11	16.67%	0.09%	11	16.67%	0.07%
Atlantic	East River, NY/USN Shipyd, Excluding East Channel	88	18	20.45%	0.16%	18	20.45%	0.12%
Atlantic	Eastport Hbr, ME	72	29	40.28%	0.25%	29	40.28%	0.19%
Great Lakes	Ecorse, MI	81	81	100%	0.70%	81	100%	0.54%
Atlantic	Eddystone, PA	19	0	0%	0%	2	10.53%	0.01%
Pacific	El Segundo, CA	2	0	0%	0%	0	0%	0%
Great Lakes	Erie Harbor, PA	9	9	100%	0.08%	9	100%	0.06%

Appendix C-2B
Analysis of Dry Bulk Vessel Constraints, 2010

Coast Name	Port Name/Location Name	Number of calls	Constrained Calls with Projects	Percent of Calls Constrained	Percent of Total Constrained Calls	Constrained Calls without Projects	Percent of Calls Constrained	Percent of Total Constrained Calls
Great Lakes	Essexville, MI	78	10	12.82%	0.09%	10	12.82%	0.07%
Pacific	Everett Harbor, WA Outer Harbor	44	41	93.18%	0.35%	41	93.18%	0.28%
Atlantic	Fajardo Hbr, PR	23	23	100%	0.20%	23	100%	0.15%
Atlantic	Fall River Hbr, MA	36	31	86.11%	0.27%	31	86.11%	0.21%
Atlantic	Fernandina, FL	49	40	81.63%	0.34%	40	81.63%	0.27%
Pacific	Ferndale, WA	40	0	0%	0%	0	0%	0%
Gulf	Freeport Harbor, TX	132	85	64.39%	0.73%	85	64.39%	0.57%
Gulf	Galveston Channel, TX	130	24	18.46%	0.21%	42	32.31%	0.28%
Great Lakes	Gary, IN	14	14	100%	0.12%	14	100%	0.09%
Atlantic	Gloucester, NJ	54	0	0%	0%	30	55.56%	0.20%
Great Lakes	Grand Haven Harbor, MI	60	60	100%	0.52%	60	100%	0.40%
Pacific	Grays Harbor, & Chehalis River Wa/North Aberdeen And North Channel	27	27	100%	0.23%	27	100%	0.18%
Pacific	Grays Hbr & Chehalis River, WA South Aberdeen	53	53	100%	0.46%	53	100%	0.36%
Great Lakes	Green Bay, WI	2	2	100%	0.02%	2	100%	0.01%
Atlantic	Guanica Hbr, PR	18	18	100%	0.16%	18	100%	0.12%
Atlantic	Guayanilla Hbr, PR	19	19	100%	0.16%	19	100%	0.13%
Gulf	Gulf Outlet Miles 70-73	65	41	63.08%	0.35%	41	63.08%	0.28%
Gulf	Gulfport Hbr & Ship Is Pass, MS	163	142	87.12%	1.22%	142	87.12%	0.95%
Pacific	Homer, AK	4	4	100%	0.03%	4	100%	0.03%
Pacific	Honolulu Hbr, Oahu, HI	44	13	29.55%	0.11%	13	29.55%	0.09%
Gulf	Houston Ship Channel, TX	1,985	455	22.92%	3.92%	993	50.03%	6.67%
Atlantic	Hudson River, NY & NJ	10	2	20.00%	0.02%	2	20.00%	0.01%

Appendix C-2B
Analysis of Dry Bulk Vessel Constraints, 2010

Coast Name	Port Name/Location Name	Number of calls	Constrained Calls with Projects	Percent of Calls Constrained	Percent of Total Constrained Calls	Constrained Calls without Projects	Percent of Calls Constrained	Percent of Total Constrained Calls
ic	Yonkers NY							
Pacifi c	Humboldt Hbr & Bay, CA	101	86	85.15%	0.74%	86	85.15%	0.58%
Great Lakes	Huron Harbor, OH	8	8	100%	0.07%	8	100%	0.05%
Pacifi c	Icy Bay, AK	23	0	0%	0%	0	0%	0%
Great Lakes	Indiana Harbor Indiana East Chicago, IN	46	46	100%	0.40%	46	100%	0.31%
Gulf	Inner Harbor Navigation Canal, LA	107	105	98.13%	0.91%	105	98.13%	0.71%
Atlant ic	Jacksonville Harbor, FL	539	265	49.17%	2.28%	300	55.66%	2.02%
Atlant ic	James River & Port of Hopewell, VA	8	8	100%	0.07%	8	100%	0.05%
Atlant ic	James River, VA	21	7	33.33%	0.06%	7	33.33%	0.05%
Atlant ic	Jobos Hbr, PR	3	3	100%	0.03%	3	100%	0.02%
Pacifi c	Juneau Gastineau Channel, AK	5	5	100%	0.04%	5	100%	0.03%
Pacifi c	Kalama, WA	299	48	16.05%	0.41%	206	68.90%	1.38%
Pacifi c	Ketchikan, AK (Tongass Narrows)	2	2	100%	0.02%	2	100%	0.01%
Great Lakes	Lake Calumet, IL	16	16	100%	0.14%	16	100%	0.11%
Pacifi c	Little Sandy River, OR	2	2	100%	0.02%	2	100%	0.01%
Pacifi c	Long Beach Harbor, CA	553	0	0%	0%	9	1.63%	0.06%
Pacifi c	Long Beach Outer Harbor, CA	302	0	0%	0%	0	0%	0%
Pacifi c	Longview (Mt. Coffin)	75	0	0%	0%	64	85.33%	0.43%
Pacifi c	Longview, WA	385	45	11.69%	0.39%	130	33.77%	0.87%
Great Lakes	Lorain Harbor, OH	32	32	100%	0.28%	32	100%	0.22%
Pacifi	Los Angeles Harbor, CA	752	0	0%	0%	0	0%	0%

Appendix C-2B
Analysis of Dry Bulk Vessel Constraints, 2010

Coast Name	Port Name/Location Name	Number of calls	Constrained Calls with Projects	Percent of Calls Constrained	Percent of Total Constrained Calls	Constrained Calls without Projects	Percent of Calls Constrained	Percent of Total Constrained Calls
c								
Atlantic	Lower Delaware Bay, DE	24	17	70.83%	0.15%	19	79.17%	0.13%
Gulf	Lower Miss River Mile 108	28	0	0%	0%	13	46.43%	0.09%
Gulf	Lower Miss River Mile 116	2	0	0%	0%	0	0%	0%
Gulf	Lower Miss River Mile 118	4	2	50.00%	0.02%	4	100%	0.03%
Gulf	Lower Miss River Mile 120	902	22	2.44%	0.19%	277	30.71%	1.86%
Gulf	Lower Miss River Mile 125	2	2	100%	0.02%	2	100%	0.01%
Gulf	Lower Miss River Mile 126	4	0	0%	0%	1	25.00%	0.01%
Gulf	Lower Miss River Mile 128	78	0	0%	0%	39	50.00%	0.26%
Gulf	Lower Miss River Mile 132	5	0	0%	0%	2	40.00%	0.01%
Gulf	Lower Miss River Mile 138	56	0	0%	0%	29	51.79%	0.19%
Gulf	Lower Miss River Mile 139	602	0	0%	0%	198	32.89%	1.33%
Gulf	Lower Miss River Mile 140	12	4	33.33%	0.03%	12	100%	0.08%
Gulf	Lower Miss River Mile 144	10	1	10.00%	0.01%	10	100%	0.07%
Gulf	Lower Miss River Mile 145	42	0	0%	0%	25	59.52%	0.17%
Gulf	Lower Miss River Mile 146	13	0	0%	0%	0	0%	0%
Gulf	Lower Miss River Mile 148	33	2	6.06%	0.02%	16	48.48%	0.11%
Gulf	Lower Miss River Mile 150	130	0	0%	0%	15	11.54%	0.10%
Gulf	Lower Miss River Mile 158	178	2	1.12%	0.02%	14	7.87%	0.09%
Gulf	Lower Miss River Mile 159	13	4	30.77%	0.03%	4	30.77%	0.03%
Gulf	Lower Miss River Mile 166	112	0	0%	0%	23	20.54%	0.15%
Gulf	Lower Miss River Mile 167	99	2	2.02%	0.02%	14	14.14%	0.09%
Gulf	Lower Miss River Mile 168	2	2	100%	0.02%	2	100%	0.01%
Gulf	Lower Miss River Mile 169	144	0	0%	0%	48	33.33%	0.32%
Gulf	Lower Miss River Mile 173	3	0	0%	0%	0	0%	0%
Gulf	Lower Miss River Mile 187	7	0	0%	0%	7	100%	0.05%
Gulf	Lower Miss River Mile 2	14	2	14.29%	0.02%	2	14.29%	0.01%
Gulf	Lower Miss River Mile 203	5	0	0%	0%	0	0%	0%
Gulf	Lower Miss River Mile 205	9	0	0%	0%	0	0%	0%
Gulf	Lower Miss River Mile 27	4	4	100%	0.03%	4	100%	0.03%
Gulf	Lower Miss River Mile 53	35	0	0%	0%	13	37.14%	0.09%
Gulf	Lower Miss River Mile 55	150	13	8.67%	0.11%	64	42.67%	0.43%
Gulf	Lower Miss River Mile 57	120	2	1.67%	0.02%	46	38.33%	0.31%
Gulf	Lower Miss River Mile 61	258	0	0%	0%	99	38.37%	0.67%
Gulf	Lower Miss River Mile 72	84	2	2.38%	0.02%	39	46.43%	0.26%
Gulf	Lower Miss River Mile 83	129	3	2.33%	0.03%	29	22.48%	0.19%
Gulf	Lower Miss River Mile 87	7	0	0%	0%	7	100%	0.05%
Great	Ludington Harbor, MI	23	23	100%	0.20%	23	100%	0.15%

Appendix C-2B
Analysis of Dry Bulk Vessel Constraints, 2010

Coast Name	Port Name/Location Name	Number of calls	Constrained Calls with Projects	Percent of Calls Constrained	Percent of Total Constrained Calls	Constrained Calls without Projects	Percent of Calls Constrained	Percent of Total Constrained Calls
Lakes								
Great Lakes	Marblehead, OH	68	68	100%	0.59%	68	100%	0.46%
Atlantic	Marcus Hook, PA	14	2	14.29%	0.02%	7	50.00%	0.05%
Great Lakes	Marine City, MI	14	14	100%	0.12%	14	100%	0.09%
Great Lakes	Marysville, MI	65	63	96.92%	0.54%	63	96.92%	0.42%
Gulf	Matagorda Ship Channel, TX	178	163	91.57%	1.41%	163	91.57%	1.10%
Atlantic	Mayaguez Hbr, PR	38	18	47.37%	0.16%	18	47.37%	0.12%
Atlantic	Miami Harbor, FL	200	0	0%	0%	2	1.00%	0.01%
Atlantic	Miami River, FL	19	14	73.68%	0.12%	14	73.68%	0.09%
Gulf	Michoud Canal, LA	105	66	62.86%	0.57%	66	62.86%	0.44%
Great Lakes	Milwaukee, WI	186	186	100%	1.60%	186	100%	1.25%
Gulf	Mobile Harbor AL	365	9	2.47%	0.08%	90	24.66%	0.60%
Great Lakes	Monroe Harbor, MI	34	28	82.35%	0.24%	28	82.35%	0.19%
Atlantic	Morehead City Hbr, NC	90	25	27.78%	0.22%	25	27.78%	0.17%
Atlantic	Morrisville, PA	227	225	99.12%	1.94%	225	99.12%	1.51%
Great Lakes	Muskegon Harbor, MI	63	63	100%	0.54%	63	100%	0.42%
Atlantic	New Bedford & Fairhaven Hbr, MA	2	2	100%	0.02%	2	100%	0.01%
Atlantic	New Haven, CT Main Harbor	72	67	93.06%	0.58%	67	93.06%	0.45%
Gulf	New Orleans, LA, Miles 88 Thru 106	1,406	26	1.85%	0.22%	235	16.71%	1.58%
Atlantic	New York & New Jersey Channels Main Ship Chan To Smith Creek NJ	20	15	75.00%	0.13%	15	75.00%	0.10%
Atlantic	New York & New Jersey Channels Piles Creek/to	46	29	63.04%	0.25%	36	78.26%	0.24%

Appendix C-2B
Analysis of Dry Bulk Vessel Constraints, 2010

Coast Name	Port Name/Location Name	Number of calls	Constrained Calls with Projects	Percent of Calls Constrained	Percent of Total Constrained Calls	Constrained Calls without Projects	Percent of Calls Constrained	Percent of Total Constrained Calls
	Kill Van Kull Exc Channels South/of Shooters Island							
Atlantic	New York & New Jersey Channels Smith Creek To Piles Creek NJ	8	5	62.50%	0.04%	5	62.50%	0.03%
Atlantic	New York & New Jersey Channels/Housman Avenue To St George S I	17	5	29.41%	0.04%	10	58.82%	0.07%
Atlantic	Newark Bay NJ Offshore Connecting Channel/between Port Newark And Port Elizabeth/branch Channels	79	4	5.06%	0.03%	50	63.29%	0.34%
Atlantic	Newark Bay NJ Port Newark Branch Channel	44	0	0%	0%	23	52.27%	0.15%
Atlantic	Newark Bay NJ-port Elizabeth Branch Channel	38	5	13.16%	0.04%	21	55.26%	0.14%
Atlantic	Newport News , VA	227	50	22.03%	0.43%	50	22.03%	0.34%
Pacific	Nikishki, AK	42	3	7.14%	0.03%	3	7.14%	0.02%
Atlantic	Norfolk Harbor, VA Portsmouth VA	603	232	38.47%	2.00%	232	38.47%	1.56%
Atlantic	Norfolk Hbr, VA Southern Br Eliz R	142	0	0%	0%	0	0%	0%
Atlantic	Northeast, Cape Fear River NC	32	14	43.75%	0.12%	14	43.75%	0.09%
Atlantic	Northville L.I., NY	7	0	0%	0%	0	0%	0%
Pacific	Oakland Harbor, CA Codes 000-380, 400-835, & 840-999	265	0	0%	0%	14	5.28%	0.09%
Great Lakes	Ogdensburg Harbor, NY	9	9	100%	0.08%	9	100%	0.06%
Pacific	Olympia Harbor, WA	13	13	100%	0.11%	13	100%	0.09%
Pacific	Oregon Slough Oregon And Bay, OR	60	23	38.33%	0.20%	23	38.33%	0.15%
Great Lakes	Oswego Harbor, NY	62	17	27.42%	0.15%	17	27.42%	0.11%

Appendix C-2B
Analysis of Dry Bulk Vessel Constraints, 2010

Coast Name	Port Name/Location Name	Number of calls	Constrained Calls with Projects	Percent of Calls Constrained	Percent of Total Constrained Calls	Constrained Calls without Projects	Percent of Calls Constrained	Percent of Total Constrained Calls
Atlantic	Palm Beach Harbor, FL	23	0	0%	0%	0	0%	0%
Gulf	Panama City Harbor, FL	133	107	80.45%	0.92%	107	80.45%	0.72%
Gulf	Pascagoula Hbr, MS	2	0	0%	0%	2	100%	0.01%
Atlantic	Paulsboro, NJ	6	6	100%	0.05%	6	100%	0.04%
Atlantic	Penobscot River, ME	2	2	100%	0.02%	2	100%	0.01%
Gulf	Pensacola Hbr, FL	8	8	100%	0.07%	8	100%	0.05%
Atlantic	Philadelphia, PA On Delaware River/Allegheny Ave To Poquessing Creek	6	0	0%	0%	0	0%	0%
Atlantic	Piscataqua River, NH	86	86	100%	0.74%	86	100%	0.58%
Pacific	Pittsburg, CA	89	89	100%	0.77%	89	100%	0.60%
Atlantic	Plymouth Harbor, MA	3	3	100%	0.03%	3	100%	0.02%
Atlantic	Ponce Harbor, PR	92	60	65.22%	0.52%	60	65.22%	0.40%
Pacific	Port Angeles Harbor, WA	23	0	0%	0%	0	0%	0%
Gulf	Port Arthur, TX	207	66	31.88%	0.57%	66	31.88%	0.44%
Great Lakes	Port Dolomite, MI	27	27	100%	0.23%	27	100%	0.18%
Atlantic	Port Everglades Hbr, FL	424	8	1.89%	0.07%	8	1.89%	0.05%
Pacific	Port Hueneme, CA	35	35	100%	0.30%	35	100%	0.24%
Great Lakes	Port Huron, MI	5	5	100%	0.04%	5	100%	0.03%
Great Lakes	Port Inland, MI	56	56	100%	0.48%	56	100%	0.38%
Gulf	Port Manatee, FL	122	53	43.44%	0.46%	53	43.44%	0.36%
Atlantic	Port Royal, SC	86	40	46.51%	0.34%	40	46.51%	0.27%
Atlantic	Portland Harbor, Fore River, ME	9	5	55.56%	0.04%	5	55.56%	0.03%
Atlantic	Portland Harbor, ME	130	128	98.46%	1.10%	128	98.46%	0.86%

Appendix C-2B
Analysis of Dry Bulk Vessel Constraints, 2010

Coast Name	Port Name/Location Name	Number of calls	Constrained Calls with Projects	Percent of Calls Constrained	Percent of Total Constrained Calls	Constrained Calls without Projects	Percent of Calls Constrained	Percent of Total Constrained Calls
Pacific	Portland, OR	935	316	33.80%	2.72%	316	33.80%	2.12%
Atlantic	Portsmouth Hbr, NH	19	17	89.47%	0.15%	17	89.47%	0.11%
Great Lakes	Presque Isle Harbor, MI	385	385	100%	3.32%	385	100%	2.59%
Atlantic	Providence River and Harbor, RI	124	16	12.90%	0.14%	16	12.90%	0.11%
Pacific	Redwood City Hbr, CA	54	54	100%	0.47%	54	100%	0.36%
Atlantic	Rensselaer, NY	14	14	100%	0.12%	14	100%	0.09%
Pacific	Revillagigedo Channel	5	4	80.00%	0.03%	4	80.00%	0.03%
Pacific	Richmond Harbor, CA Outer Harbor, Codes 000-699	178	0	0%	0%	18	10.11%	0.12%
Great Lakes	Saginaw, MI	106	106	100%	0.91%	106	100%	0.71%
Atlantic	Salem Harbor, MA	41	41	100%	0.35%	41	100%	0.28%
Pacific	San Diego Harbor, CA	198	126	63.64%	1.09%	126	63.64%	0.85%
Pacific	San Francisco Hbr, CA	27	14	51.85%	0.12%	14	51.85%	0.09%
Atlantic	San Juan Hbr, PR	263	72	27.38%	0.62%	72	27.38%	0.48%
Great Lakes	Sandusky Harbor, OH	211	211	100%	1.82%	211	100%	1.42%
Great Lakes	Sault Ste Marie, MI	5	5	100%	0.04%	5	100%	0.03%
Atlantic	Savannah Harbor, GA	711	4	0.56%	0.03%	30	4.22%	0.20%
Atlantic	Schuylkill River Phila, PA Project	2	0	0%	0%	0	0%	0%
Atlantic	Searsport Hbr, Me	20	18	90.00%	0.16%	18	90.00%	0.12%
Pacific	Seattle Harbor, WA Duwamish River	70	58	82.86%	0.50%	58	82.86%	0.39%
Pacific	Seattle Harbor, WA East	98	0	0%	0%	53	54.08%	0.36%

Appendix C-2B
Analysis of Dry Bulk Vessel Constraints, 2010

Coast Name	Port Name/Location Name	Number of calls	Constrained Calls with Projects	Percent of Calls Constrained	Percent of Total Constrained Calls	Constrained Calls without Projects	Percent of Calls Constrained	Percent of Total Constrained Calls
c	Waterway							
Pacific	Seattle Harbor, WA Elliott Bay	93	93	100%	0.80%	93	100%	0.63%
Pacific	Seattle Harbor, WA Harbor Island	3	0	0%	0%	0	0%	0%
Pacific	Seattle Harbor, WA West Waterway	142	142	100%	1.22%	142	100%	0.95%
Pacific	Seward, AK	26	26	100%	0.22%	26	100%	0.17%
Great Lakes	Silver Bay, MN	2	2	100%	0.02%	2	100%	0.01%
Great Lakes	St Ignace, MI	2	0	0%	0%	0	0%	0%
Pacific	Steilacoom, WA	7	0	0%	0%	0	0%	0%
Pacific	Stockton, CA	189	174	92.06%	1.50%	174	92.06%	1.17%
Great Lakes	Stoneport, MI	37	37	100%	0.32%	37	100%	0.25%
Pacific	Suisun Bay Channel, CA	3	0	0%	0%	0	0%	0%
Great Lakes	Superior, WI	426	389	91.31%	3.35%	389	91.31%	2.61%
Pacific	Tacoma Harbor, WA	464	101	21.77%	0.87%	220	47.41%	1.48%
Gulf	Tampa Harbor, FL	548	83	15.15%	0.72%	83	15.15%	0.56%
Gulf	Texas City, TX	160	126	78.75%	1.09%	126	78.75%	0.85%
Atlantic	Thru 04470 Philadelphia, PA On Delaware Rv/Hog Island To Allegheny Ave	364	30	8.24%	0.26%	141	38.74%	0.95%
Gulf	Thru 66540 Giww Galveston To Corpus Christi	32	20	62.50%	0.17%	20	62.50%	0.13%
Great Lakes	Thru 77647 Port Of Chicago Il/calumet Harbor, & River Il & In-south Chicago	315	315	100%	2.72%	315	100%	2.12%
Great Lakes	Toledo, OH	556	512	92.09%	4.41%	512	92.09%	3.44%
Atlantic	Tullytown, PA	25	16	64.00%	0.14%	16	64.00%	0.11%

Appendix C-2B
Analysis of Dry Bulk Vessel Constraints, 2010

Coast Name	Port Name/Location Name	Number of calls	Constrained Calls with Projects	Percent of Calls Constrained	Percent of Total Constrained Calls	Constrained Calls without Projects	Percent of Calls Constrained	Percent of Total Constrained Calls
Pacific	Unak Bay & Island, AK/(Iliuliuk & Dutch Hbr.)	6	6	100%	0.05%	6	100%	0.04%
Atlantic	Upper Bay, NY Narrows To/Municipal Ferry Dock St Geo Si/exc Bay Ridge Red Hook & Buttermilk Channels	283	102	36.04%	0.88%	126	44.52%	0.85%
Atlantic	Upper Bay, NY/Bayonne NJ To Claremont NJ/bay Ridge Flats And Bedloes Is	23	2	8.70%	0.02%	5	21.74%	0.03%
Pacific	Vancouver, WA	451	132	29.27%	1.14%	132	29.27%	0.89%
Atlantic	Wando River, SC	87	0	0%	0%	41	47.13%	0.28%
Atlantic	Wilmington Harbor, NC	268	4	1.49%	0.03%	171	63.81%	1.15%
Pacific	Yolo Port District, CA	86	79	91.86%	0.68%	79	91.86%	0.53%
Atlantic	York River, VA	3	3	100%	0.03%	3	100%	0.02%

Appendix C-2C
Analysis of Dry Bulk Vessel Constraints, 2020

Coast Name	Port Name/Location Name	Number of calls	Constrained Calls with Projects	Percent of Calls Constrained	Percent of Total Constrained Calls	Constrained Calls without Projects	Percent of Calls Constrained	Percent of Total Constrained Calls
Pacific	Afognak Island, AK	17	0	0%	0%	0	0%	0%
Great Lakes	Alabaster, MI	42	42	100%	0.32%	42	100%	0.24%
Atlantic	Albany, NY	31	27	87.10%	0.20%	27	87.10%	0.15%
Great Lakes	Alpena, MI	23	8	34.78%	0.06%	8	34.78%	0.05%
Pacific	Anacortes Harbor, WA	23	2	8.70%	0.02%	2	8.70%	0.01%
Atlantic	Asharoken, L I	3	0	0%	0%	0	0%	0%
Great Lakes	Ashtabula Harbor, OH	157	154	98.09%	1.17%	154	98.09%	0.88%
Pacific	Astoria, OR	48	4	8.33%	0.03%	29	60.42%	0.17%
Atlantic	Baltimore Hbr and Channels, MD	1,101	88	7.99%	0.67%	88	7.99%	0.50%
Pacific	Barbers Point Channel Oahu	52	19	36.54%	0.14%	19	36.54%	0.11%
Gulf	Baton Rouge, LA Miles 226 Thru 235	395	0	0%	0%	94	23.80%	0.54%
Gulf	Bayou Casotte, MS	165	152	92.12%	1.15%	152	92.12%	0.87%
Gulf	Beaumont, TX	319	224	70.22%	1.70%	224	70.22%	1.28%
Pacific	Bellingham Bay & Harbor, WA/Whatcom Creek Waterway	50	50	100%	0.38%	50	100%	0.28%
Atlantic	Boston MA Island End River	20	0	0%	0%	0	0%	0%
Atlantic	Boston MA Town River	3	3	100%	0.02%	3	100%	0.02%
Atlantic	Boston, MA Chelsea River	69	42	60.87%	0.32%	42	60.87%	0.24%
Atlantic	Boston, MA Main Water Front	85	0	0%	0%	0	0%	0%
Atlantic	Boston, MA Mystic River	104	22	21.15%	0.17%	22	21.15%	0.13%
Atlantic	Boston, MA Weymouth Fore River	3	3	100%	0.02%	3	100%	0.02%

Appendix C-2C
Analysis of Dry Bulk Vessel Constraints, 2020

Coast Name	Port Name/Location Name	Number of calls	Constrained Calls with Projects	Percent of Calls Constrained	Percent of Total Constrained Calls	Constrained Calls without Projects	Percent of Calls Constrained	Percent of Total Constrained Calls
Atlantic	Bridgeport, CT Main Harbor	17	17	100%	0.13%	17	100%	0.10%
Gulf	Brownsville Ship Channel, TX	301	196	65.12%	1.49%	196	65.12%	1.12%
Atlantic	Brunswick Hbr, GA	308	210	68.18%	1.59%	266	86.36%	1.52%
Great Lakes	Buffalo Harbor, NY	70	21	30.00%	0.16%	21	30.00%	0.12%
Atlantic	Burlington, NJ	32	8	25.00%	0.06%	8	25.00%	0.05%
Great Lakes	Burns Waterway Harbor, IN	236	236	100%	1.79%	236	100%	1.34%
Atlantic	Buttermilk Channel, NY	101	54	53.47%	0.41%	54	53.47%	0.31%
Gulf	Calcasieu River and Pass Lake Charles, LA	60	49	81.67%	0.37%	49	81.67%	0.28%
Great Lakes	Calcite, MI	182	182	100%	1.38%	182	100%	1.04%
Atlantic	Camden, NJ	306	8	2.61%	0.06%	89	29.08%	0.51%
Atlantic	Canaveral Harbor, FL	392	32	8.16%	0.24%	32	8.16%	0.18%
Gulf	Canaveral Harbor, FL	4	0	0%	0%	0	0%	0%
Pacific	Carquinez Strait, CA	74	11	14.86%	0.08%	11	14.86%	0.06%
Atlantic	Catskill, NY	5	5	100%	0.04%	5	100%	0.03%
Atlantic	Cementon, NY	60	60	100%	0.45%	60	100%	0.34%
Atlantic	Charleston Ashley River, SC	12	11	91.67%	0.08%	11	91.67%	0.06%
Atlantic	Charleston Cooper River, SC	420	16	3.81%	0.12%	191	45.48%	1.09%
Atlantic	Charleston Shipyard River, SC	7	5	71.43%	0.04%	5	71.43%	0.03%
Great Lakes	Charlevoix Michigan Ironton, MI	14	5	35.71%	0.04%	5	35.71%	0.03%
Atlantic	Chesapeake Bay Open Waters	28	7	25.00%	0.05%	7	25.00%	0.04%
Atlantic	Christina River Wilmington	211	147	69.67%	1.11%	147	69.67%	0.84%

Appendix C-2C
Analysis of Dry Bulk Vessel Constraints, 2020

Coast Name	Port Name/Location Name	Number of calls	Constrained Calls with Projects	Percent of Calls Constrained	Percent of Total Constrained Calls	Constrained Calls without Projects	Percent of Calls Constrained	Percent of Total Constrained Calls
Atlantic	Delaware City, DE							
Atlantic	Claymont, DE	43	0	0%	0%	0	0%	0%
Great Lakes	Cleveland Harbor, OH	473	435	91.97%	3.30%	435	91.97%	2.48%
Atlantic	Coeymans, NY	25	2	8.00%	0.02%	2	8.00%	0.01%
Great Lakes	Conneaut Harbor, OH	202	202	100%	1.53%	202	100%	1.15%
Atlantic	Cooper River Above Charleston Hbr	25	0	0%	0%	0	0%	0%
Pacific	Coos Bay, OR Inside Channel To/Millington, OR	102	102	100%	0.77%	102	100%	0.58%
Gulf	Corpus Christi, TX	831	209	25.15%	1.58%	289	34.78%	1.65%
Atlantic	Davisville, RI	6	6	100%	0.05%	6	100%	0.03%
Great Lakes	Dearborn MI See Rouge Riv/Rouge River MI Dearborn MI	207	188	90.82%	1.43%	188	90.82%	1.07%
Atlantic	Delaware City, DE	9	9	100%	0.07%	9	100%	0.05%
Great Lakes	Detroit, MI	482	368	76.35%	2.79%	368	76.35%	2.10%
Great Lakes	Duluth, MN	283	273	96.47%	2.07%	273	96.47%	1.56%
Atlantic	Eagle Point Westville, NJ	15	13	86.67%	0.10%	15	100%	0.09%
Atlantic	East River NY Upper NY Bay To USN Shipyard	93	14	15.05%	0.11%	14	15.05%	0.08%
Atlantic	East River, NY/USN Shipyard, Excluding East Channel	100	21	21.00%	0.16%	21	21.00%	0.12%
Atlantic	Eastport Hbr, ME	86	35	40.70%	0.27%	35	40.70%	0.20%
Great Lakes	Ecorse, MI	93	93	100%	0.71%	93	100%	0.53%
Atlantic	Eddystone, PA	23	0	0%	0%	3	13.04%	0.02%
Pacific	El Segundo, CA	2	0	0%	0%	0	0%	0%

Appendix C-2C
Analysis of Dry Bulk Vessel Constraints, 2020

Coast Name	Port Name/Location Name	Number of calls	Constrained Calls with Projects	Percent of Calls Constrained	Percent of Total Constrained Calls	Constrained Calls without Projects	Percent of Calls Constrained	Percent of Total Constrained Calls
Great Lakes	Erie Harbor, PA	11	11	100%	0.08%	11	100%	0.06%
Great Lakes	Essexville, MI	125	16	12.80%	0.12%	16	12.80%	0.09%
Pacific	Everett Harbor, WA Outer Harbor	48	45	93.75%	0.34%	45	93.75%	0.26%
Atlantic	Fajardo Hbr, PR	23	23	100%	0.17%	23	100%	0.13%
Atlantic	Fall River Hbr, MA	44	38	86.36%	0.29%	38	86.36%	0.22%
Atlantic	Fernandina, FL	59	45	76.27%	0.34%	45	76.27%	0.26%
Pacific	Ferndale, WA	52	0	0%	0%	0	0%	0%
Gulf	Freeport Harbor, TX	148	94	63.51%	0.71%	94	63.51%	0.54%
Gulf	Galveston Channel, TX	143	25	17.48%	0.19%	46	32.17%	0.26%
Great Lakes	Gary, IN	15	15	100%	0.11%	15	100%	0.09%
Atlantic	Gloucester, NJ	67	0	0%	0%	39	58.21%	0.22%
Great Lakes	Grand Haven Harbor, MI	70	70	100%	0.53%	70	100%	0.40%
Pacific	Grays Harbor, & Chehalis River Wa/North Aberdeen And North Channel	33	33	100%	0.25%	33	100%	0.19%
Pacific	Grays Hbr & Chehalis River, WA South Aberdeen	47	47	100%	0.36%	47	100%	0.27%
Great Lakes	Green Bay, WI	3	3	100%	0.02%	3	100%	0.02%
Atlantic	Guanica Hbr, PR	23	23	100%	0.17%	23	100%	0.13%
Atlantic	Guayanilla Hbr, PR	21	21	100%	0.16%	21	100%	0.12%
Gulf	Gulf Outlet Miles 70-73	81	51	62.96%	0.39%	51	62.96%	0.29%
Gulf	Gulfport Hbr & Ship Is Pass, MS	269	245	91.08%	1.86%	245	91.08%	1.40%
Pacific	Homer, AK	5	5	100%	0.04%	5	100%	0.03%
Pacific	Honolulu Hbr, Oahu, HI	60	16	26.67%	0.12%	16	26.67%	0.09%

Appendix C-2C
Analysis of Dry Bulk Vessel Constraints, 2020

Coast Name	Port Name/Location Name	Number of calls	Constrained Calls with Projects	Percent of Calls Constrained	Percent of Total Constrained Calls	Constrained Calls without Projects	Percent of Calls Constrained	Percent of Total Constrained Calls
Gulf	Houston Ship Channel, TX	2,432	528	21.71%	4.00%	1,230	50.58%	7.01%
Atlantic	Hudson River, NY & NJ Yonkers NY	10	2	20.00%	0.02%	2	20.00%	0.01%
Pacific	Humboldt Hbr & Bay, CA	132	114	86.36%	0.86%	114	86.36%	0.65%
Great Lakes	Huron Harbor, OH	8	8	100%	0.06%	8	100%	0.05%
Pacific	Icy Bay, AK	21	0	0%	0%	0	0%	0%
Great Lakes	Indiana Harbor Indiana East Chicago, IN	44	44	100%	0.33%	44	100%	0.25%
Gulf	Inner Harbor Navigation Canal, LA	158	155	98.10%	1.18%	155	98.10%	0.88%
Atlantic	Jacksonville Harbor, FL	672	320	47.62%	2.43%	360	53.57%	2.05%
Atlantic	James River & Port of Hopewell, VA	8	8	100%	0.06%	8	100%	0.05%
Atlantic	James River, VA	24	8	33.33%	0.06%	8	33.33%	0.05%
Atlantic	Jobos Hbr, PR	3	3	100%	0.02%	3	100%	0.02%
Pacific	Juneau Gastineau Channel, AK	7	7	100%	0.05%	7	100%	0.04%
Pacific	Kalama, WA	356	59	16.57%	0.45%	251	70.51%	1.43%
Pacific	Ketchikan, AK (Tongass Narrows)	1	1	100%	0.01%	1	100%	0.01%
Great Lakes	Lake Calumet, IL	19	19	100%	0.14%	19	100%	0.11%
Pacific	Little Sandy River, OR	2	2	100%	0.02%	2	100%	0.01%
Pacific	Long Beach Harbor, CA	797	0	0%	0%	10	1.25%	0.06%
Pacific	Long Beach Outer Harbor, CA	340	0	0%	0%	0	0%	0%
Pacific	Longview (Mt. Coffin)	85	0	0%	0%	73	85.88%	0.42%
Pacific	Longview, WA	400	44	11.00%	0.33%	142	35.50%	0.81%
Great	Lorain Harbor, OH	34	34	100%	0.26%	34	100%	0.19%

Appendix C-2C
Analysis of Dry Bulk Vessel Constraints, 2020

Coast Name	Port Name/Location Name	Number of calls	Constrained Calls with Projects	Percent of Calls Constrained	Percent of Total Constrained Calls	Constrained Calls without Projects	Percent of Calls Constrained	Percent of Total Constrained Calls
Lakes Pacific	Los Angeles Harbor, CA	1,005	0	0%	0%	0	0%	0%
Atlantic	Lower Delaware Bay, DE	25	17	68.00%	0.13%	20	80.00%	0.11%
Gulf	Lower Miss River Mile 108	31	0	0%	0%	14	45.16%	0.08%
Gulf	Lower Miss River Mile 116	2	0	0%	0%	0	0%	0%
Gulf	Lower Miss River Mile 118	4	2	50.00%	0.02%	4	100%	0.02%
Gulf	Lower Miss River Mile 120	1,158	20	1.73%	0.15%	352	30.40%	2.01%
Gulf	Lower Miss River Mile 125	2	0	0%	0%	2	100%	0.01%
Gulf	Lower Miss River Mile 126	5	0	0%	0%	1	20.00%	0.01%
Gulf	Lower Miss River Mile 128	101	0	0%	0%	50	49.50%	0.28%
Gulf	Lower Miss River Mile 132	5	0	0%	0%	2	40.00%	0.01%
Gulf	Lower Miss River Mile 138	80	0	0%	0%	42	52.50%	0.24%
Gulf	Lower Miss River Mile 139	700	0	0%	0%	229	32.71%	1.30%
Gulf	Lower Miss River Mile 140	14	5	35.71%	0.04%	14	100%	0.08%
Gulf	Lower Miss River Mile 144	11	0	0%	0%	11	100%	0.06%
Gulf	Lower Miss River Mile 145	52	0	0%	0%	32	61.54%	0.18%
Gulf	Lower Miss River Mile 146	12	0	0%	0%	0	0%	0%
Gulf	Lower Miss River Mile 148	38	0	0%	0%	17	44.74%	0.10%
Gulf	Lower Miss River Mile 150	170	0	0%	0%	15	8.82%	0.09%
Gulf	Lower Miss River Mile 158	221	2	0.90%	0.02%	15	6.79%	0.09%
Gulf	Lower Miss River Mile 159	16	0	0%	0%	5	31.25%	0.03%
Gulf	Lower Miss River Mile 166	136	0	0%	0%	28	20.59%	0.16%
Gulf	Lower Miss River Mile 167	113	2	1.77%	0.02%	15	13.27%	0.09%
Gulf	Lower Miss River Mile 168	2	0	0%	0%	2	100%	0.01%
Gulf	Lower Miss River Mile 169	178	0	0%	0%	64	35.96%	0.36%
Gulf	Lower Miss River Mile 173	4	0	0%	0%	0	0%	0%
Gulf	Lower Miss River Mile 187	7	0	0%	0%	7	100%	0.04%
Gulf	Lower Miss River Mile 2	16	2	12.50%	0.02%	2	12.50%	0.01%
Gulf	Lower Miss River Mile 203	5	0	0%	0%	0	0%	0%
Gulf	Lower Miss River Mile 205	10	0	0%	0%	0	0%	0%
Gulf	Lower Miss River Mile 27	5	2	40.00%	0.02%	5	100%	0.03%
Gulf	Lower Miss River Mile 53	40	0	0%	0%	17	42.50%	0.10%
Gulf	Lower Miss River Mile 55	172	0	0%	0%	71	41.28%	0.40%
Gulf	Lower Miss River Mile 57	145	0	0%	0%	63	43.45%	0.36%
Gulf	Lower Miss River Mile 61	291	0	0%	0%	111	38.14%	0.63%
Gulf	Lower Miss River Mile 72	108	0	0%	0%	50	46.30%	0.28%
Gulf	Lower Miss River Mile 83	179	0	0%	0%	43	24.02%	0.25%

Appendix C-2C
Analysis of Dry Bulk Vessel Constraints, 2020

Coast Name	Port Name/Location Name	Number of calls	Constrained Calls with Projects	Percent of Calls Constrained	Percent of Total Constrained Calls	Constrained Calls without Projects	Percent of Calls Constrained	Percent of Total Constrained Calls
Gulf	Lower Miss River Mile 87	7	0	0%	0%	7	100%	0.04%
Great Lakes	Ludington Harbor, MI	26	26	100%	0.20%	26	100%	0.15%
Great Lakes	Marblehead, OH	83	83	100%	0.63%	83	100%	0.47%
Atlantic	Marcus Hook, PA	15	3	20.00%	0.02%	7	46.67%	0.04%
Great Lakes	Marine City, MI	16	16	100%	0.12%	16	100%	0.09%
Great Lakes	Marysville, MI	73	71	97.26%	0.54%	71	97.26%	0.40%
Gulf	Matagorda Ship Channel, TX	178	163	91.57%	1.24%	163	91.57%	0.93%
Atlantic	Mayaguez Hbr, PR	47	22	46.81%	0.17%	22	46.81%	0.13%
Atlantic	Miami Harbor, FL	324	0	0%	0%	2	0.62%	0.01%
Atlantic	Miami River, FL	22	16	72.73%	0.12%	16	72.73%	0.09%
Gulf	Michoud Canal, LA	140	90	64.29%	0.68%	90	64.29%	0.51%
Great Lakes	Milwaukee, WI	212	212	100%	1.61%	212	100%	1.21%
Gulf	Mobile Harbor AL	473	8	1.69%	0.06%	106	22.41%	0.60%
Great Lakes	Monroe Harbor, MI	42	31	73.81%	0.24%	31	73.81%	0.18%
Atlantic	Morehead City Hbr, NC	98	31	31.63%	0.24%	31	31.63%	0.18%
Atlantic	Morrisville, PA	284	282	99.30%	2.14%	282	99.30%	1.61%
Great Lakes	Muskegon Harbor, MI	70	70	100%	0.53%	70	100%	0.40%
Atlantic	New Bedford & Fairhaven Hbr, MA	2	2	100%	0.02%	2	100%	0.01%
Atlantic	New Haven, CT Main Harbor	83	77	92.77%	0.58%	77	92.77%	0.44%
Gulf	New Orleans, LA, Miles 88 Thru 106	1,724	6	0.35%	0.05%	268	15.55%	1.53%
Atlantic	New York & New Jersey Channels Main Ship Chan To Smith Creek NJ	24	17	70.83%	0.13%	17	70.83%	0.10%

Appendix C-2C
Analysis of Dry Bulk Vessel Constraints, 2020

Coast Name	Port Name/Location Name	Number of calls	Constrained Calls with Projects	Percent of Calls Constrained	Percent of Total Constrained Calls	Constrained Calls without Projects	Percent of Calls Constrained	Percent of Total Constrained Calls
Atlantic	New York & New Jersey Channels Piles Creek/to Kill Van Kull Exc Channels South/of Shooters Island	53	12	22.64%	0.09%	43	81.13%	0.25%
Atlantic	New York & New Jersey Channels Smith Creek To Piles Creek NJ	10	5	50.00%	0.04%	5	50.00%	0.03%
Atlantic	New York & New Jersey Channels/Housman Avenue To St George S I	18	5	27.78%	0.04%	10	55.56%	0.06%
Atlantic	Newark Bay NJ Offshore Connecting Channel/between Port Newark And Port Elizabeth/branch Channels	97	5	5.15%	0.04%	60	61.86%	0.34%
Atlantic	Newark Bay NJ Port Newark Branch Channel	56	0	0%	0%	30	53.57%	0.17%
Atlantic	Newark Bay NJ-port Elizabeth Branch Channel	51	7	13.73%	0.05%	27	52.94%	0.15%
Atlantic	Newport News , VA	259	40	15.44%	0.30%	50	19.31%	0.28%
Pacific	Nikishki, AK	48	4	8.33%	0.03%	4	8.33%	0.02%
Atlantic	Norfolk Harbor, VA Portsmouth VA	684	171	25.00%	1.30%	232	33.92%	1.32%
Atlantic	Norfolk Hbr, VA Southern Br Eliz R	159	0	0%	0%	0	0%	0%
Atlantic	Northeast, Cape Fear River NC	39	15	38.46%	0.11%	15	38.46%	0.09%
Atlantic	Northville L.I., NY	7	0	0%	0%	0	0%	0%
Pacific	Oakland Harbor, CA Codes 000-380, 400-835, & 840-999	338	0	0%	0%	18	5.33%	0.10%
Great Lakes	Ogdensburg Harbor, NY	11	11	100%	0.08%	11	100%	0.06%
Pacific	Olympia Harbor, WA	13	13	100%	0.10%	13	100%	0.07%
Pacific	Oregon Slough Oregon And Bay, OR	75	27	36.00%	0.20%	27	36.00%	0.15%

Appendix C-2C
Analysis of Dry Bulk Vessel Constraints, 2020

Coast Name	Port Name/Location Name	Number of calls	Constrained Calls with Projects	Percent of Calls Constrained	Percent of Total Constrained Calls	Constrained Calls without Projects	Percent of Calls Constrained	Percent of Total Constrained Calls
Great Lakes	Oswego Harbor, NY	91	21	23.08%	0.16%	21	23.08%	0.12%
Atlantic	Palm Beach Harbor, FL	35	0	0%	0%	0	0%	0%
Gulf	Panama City Harbor, FL	149	123	82.55%	0.93%	123	82.55%	0.70%
Gulf	Pascagoula Hbr, MS	2	0	0%	0%	2	100%	0.01%
Atlantic	Paulsboro, NJ	7	7	100%	0.05%	7	100%	0.04%
Atlantic	Penobscot River, ME	3	3	100%	0.02%	3	100%	0.02%
Gulf	Pensacola Hbr, FL	10	10	100%	0.08%	10	100%	0.06%
Atlantic	Philadelphia, PA On Delaware River/Allegheny Ave To Poquessing Creek	7	0	0%	0%	0	0%	0%
Atlantic	Piscataqua River, NH	100	100	100%	0.76%	100	100%	0.57%
Pacific	Pittsburg, CA	93	93	100%	0.71%	93	100%	0.53%
Atlantic	Plymouth Harbor, MA	3	3	100%	0.02%	3	100%	0.02%
Atlantic	Ponce Harbor, PR	117	74	63.25%	0.56%	74	63.25%	0.42%
Pacific	Port Angeles Harbor, WA	20	0	0%	0%	0	0%	0%
Gulf	Port Arthur, TX	266	88	33.08%	0.67%	88	33.08%	0.50%
Great Lakes	Port Dolomite, MI	33	33	100%	0.25%	33	100%	0.19%
Atlantic	Port Everglades Hbr, FL	583	12	2.06%	0.09%	12	2.06%	0.07%
Pacific	Port Hueneme, CA	45	45	100%	0.34%	45	100%	0.26%
Great Lakes	Port Huron, MI	6	6	100%	0.05%	6	100%	0.03%
Great Lakes	Port Inland, MI	69	69	100%	0.52%	69	100%	0.39%
Gulf	Port Manatee, FL	178	81	45.51%	0.61%	81	45.51%	0.46%
Atlantic	Port Royal, SC	130	52	40.00%	0.39%	52	40.00%	0.30%
Atlantic	Portland Harbor, Fore River, ME	10	6	60.00%	0.05%	6	60.00%	0.03%

Appendix C-2C
Analysis of Dry Bulk Vessel Constraints, 2020

Coast Name	Port Name/Location Name	Number of calls	Constrained Calls with Projects	Percent of Calls Constrained	Percent of Total Constrained Calls	Constrained Calls without Projects	Percent of Calls Constrained	Percent of Total Constrained Calls
Atlantic	Portland Harbor, ME	144	142	98.61%	1.08%	142	98.61%	0.81%
Pacific	Portland, OR	1,054	380	36.05%	2.88%	380	36.05%	2.17%
Atlantic	Portsmouth Hbr, NH	22	20	90.91%	0.15%	20	90.91%	0.11%
Great Lakes	Presque Isle Harbor, MI	414	414	100%	3.14%	414	100%	2.36%
Atlantic	Providence River and Harbor, RI	170	17	10.00%	0.13%	17	10.00%	0.10%
Pacific	Redwood City Hbr, CA	86	86	100%	0.65%	86	100%	0.49%
Atlantic	Rensselaer, NY	15	15	100%	0.11%	15	100%	0.09%
Pacific	Revillagigedo Channel	8	7	87.50%	0.05%	7	87.50%	0.04%
Pacific	Richmond Harbor, CA Outer Harbor, Codes 000-699	215	0	0%	0%	20	9.30%	0.11%
Great Lakes	Saginaw, MI	118	118	100%	0.89%	118	100%	0.67%
Atlantic	Salem Harbor, MA	49	49	100%	0.37%	49	100%	0.28%
Pacific	San Diego Harbor, CA	301	214	71.10%	1.62%	214	71.10%	1.22%
Pacific	San Francisco Hbr, CA	31	16	51.61%	0.12%	16	51.61%	0.09%
Atlantic	San Juan Hbr, PR	352	99	28.13%	0.75%	99	28.13%	0.56%
Great Lakes	Sandusky Harbor, OH	197	197	100%	1.49%	197	100%	1.12%
Great Lakes	Sault Ste Marie, MI	5	5	100%	0.04%	5	100%	0.03%
Atlantic	Savannah Harbor, GA	928	5	0.54%	0.04%	37	3.99%	0.21%
Atlantic	Schuykill River Phila, PA Project	3	0	0%	0%	0	0%	0%
Atlantic	Searsport Hbr, Me	24	22	91.67%	0.17%	22	91.67%	0.13%
Pacific	Seattle Harbor, WA	95	81	85.26%	0.61%	81	85.26%	0.46%

Appendix C-2C
Analysis of Dry Bulk Vessel Constraints, 2020

Coast Name	Port Name/Location Name	Number of calls	Constrained Calls with Projects	Percent of Calls Constrained	Percent of Total Constrained Calls	Constrained Calls without Projects	Percent of Calls Constrained	Percent of Total Constrained Calls
c	Duwamish River							
Pacific	Seattle Harbor, WA East Waterway	144	0	0%	0%	85	59.03%	0.48%
Pacific	Seattle Harbor, WA Elliott Bay	105	105	100%	0.80%	105	100%	0.60%
Pacific	Seattle Harbor, WA Harbor Island	4	0	0%	0%	0	0%	0%
Pacific	Seattle Harbor, WA West Waterway	213	213	100%	1.61%	213	100%	1.21%
Pacific	Seward, AK	34	34	100%	0.26%	34	100%	0.19%
Great Lakes	Silver Bay, MN	2	2	100%	0.02%	2	100%	0.01%
Great Lakes	St Ignace, MI	3	0	0%	0%	0	0%	0%
Pacific	Steilacoom, WA	12	0	0%	0%	0	0%	0%
Pacific	Stockton, CA	271	255	94.10%	1.93%	255	94.10%	1.45%
Great Lakes	Stoneport, MI	45	45	100%	0.34%	45	100%	0.26%
Pacific	Suisun Bay Channel, CA	4	0	0%	0%	0	0%	0%
Great Lakes	Superior, WI	432	392	90.74%	2.97%	392	90.74%	2.23%
Pacific	Tacoma Harbor, WA	500	114	22.80%	0.86%	236	47.20%	1.34%
Gulf	Tampa Harbor, FL	675	94	13.93%	0.71%	94	13.93%	0.54%
Gulf	Texas City, TX	191	25	13.09%	0.19%	156	81.68%	0.89%
Atlantic	Thru 04470 Philadelphia, PA On Delaware Rv/Hog Island To Allegheny Ave	455	35	7.69%	0.27%	184	40.44%	1.05%
Gulf	Thru 66540 Giww Galveston To Corpus Christi	40	25	62.50%	0.19%	25	62.50%	0.14%
Great Lakes	Thru 77647 Port Of Chicago Il/calumet Harbor, & River Il & In-south Chicago	342	342	100%	2.59%	342	100%	1.95%

Appendix C-2C
Analysis of Dry Bulk Vessel Constraints, 2020

Coast Name	Port Name/Location Name	Number of calls	Constrained Calls with Projects	Percent of Calls Constrained	Percent of Total Constrained Calls	Constrained Calls without Projects	Percent of Calls Constrained	Percent of Total Constrained Calls
Great Lakes	Toledo, OH	598	527	88.13%	4.00%	527	88.13%	3.00%
Atlantic	Tullytown, PA	37	23	62.16%	0.17%	23	62.16%	0.13%
Pacific	Unak Bay & Island, AK/(Iliuliuk & Dutch Hbr.)	8	8	100%	0.06%	8	100%	0.05%
Atlantic	Upper Bay, NY Narrows To/Municipal Ferry Dock St Geo Si/exc Bay Ridge Red Hook & Buttermilk Channels	334	108	32.34%	0.82%	134	40.12%	0.76%
Atlantic	Upper Bay, NY/Bayonne NJ To Claremont NJ/bay Ridge Flats And Bedloes Is	29	2	6.90%	0.02%	6	20.69%	0.03%
Pacific	Vancouver, WA	543	172	31.68%	1.30%	172	31.68%	0.98%
Atlantic	Wando River, SC	118	0	0%	0%	56	47.46%	0.32%
Atlantic	Wilmington Harbor, NC	305	5	1.64%	0.04%	192	62.95%	1.09%
Pacific	Yolo Port District, CA	89	80	89.89%	0.61%	80	89.89%	0.46%
Atlantic	York River, VA	5	5	100%	0.04%	5	100%	0.03%

Appendix C-3A
Analysis of Tanker Vessel Constraints, 2000

Coast Name	Port Name/Location Name	Number of calls	Constrained Calls with Projects	Percent of Calls Constrained	Percent of Total Constrained Calls	Constrained Calls without Projects	Percent of Calls Constrained	Percent of Total Constrained Calls
Atlantic	Albany, NY	22	18	81.82%	0.13%	18	81.82%	0.13%
Pacific	Anacortes Harbor, WA	68	56	82.35%	0.41%	56	82.35%	0.41%
Pacific	Anchorage, AK	16	0	0%	0%	0	0%	0%
Atlantic	Arecibo Harbor, PR	4	0	0%	0%	0	0%	0%
Atlantic	Asharoken, L I	6	0	0%	0%	0	0%	0%
Pacific	Astoria, OR	6	0	0%	0%	0	0%	0%
Gulf	Atchafalaya R Morgan Cty To Gulf	2	2	100%	0.01%	2	100%	0.01%
Atlantic	Baltimore Hbr and Channels, MD	220	4	1.82%	0.03%	4	1.82%	0.03%
Great Lakes	Bangor Township, MI	2	2	100%	0.01%	2	100%	0.01%
Pacific	Barbers Point Channel Oahu	80	64	80.00%	0.46%	64	80.00%	0.46%
Gulf	Baton Rouge, LA Miles 226 Thru 235	240	128	53.33%	0.93%	128	53.33%	0.93%
Atlantic	Bay Ridge Channel, NY	2	0	0%	0%	0	0%	0%
Gulf	Bayou Casotte, MS	468	444	94.87%	3.22%	444	94.87%	3.22%
Gulf	Beaumont, TX	1,878	1,554	82.75%	11.25%	1,554	82.75%	11.25%
Pacific	Bellingham Bay & Harbor, WA/Whatcom Creek Waterway	24	20	83.33%	0.14%	20	83.33%	0.14%
Atlantic	Boston MA Island End River	114	24	21.05%	0.17%	24	21.05%	0.17%
Atlantic	Boston MA Town River	20	18	90.00%	0.13%	18	90.00%	0.13%
Atlantic	Boston, MA Chelsea River	258	158	61.24%	1.14%	158	61.24%	1.14%
Atlantic	Boston, MA Main Water Front	72	6	8.33%	0.04%	6	8.33%	0.04%
Atlantic	Boston, MA Mystic River	88	72	81.82%	0.52%	72	81.82%	0.52%
Atlantic	Boston, MA Weymouth	14	12	85.71%	0.09%	12	85.71%	0.09%

Appendix C-3A
Analysis of Tanker Vessel Constraints, 2000

Coast Name	Port Name/Location Name	Number of calls	Constrained Calls with Projects	Percent of Calls Constrained	Percent of Total Constrained Calls	Constrained Calls without Projects	Percent of Calls Constrained	Percent of Total Constrained Calls
ic	Fore River							
Atlant ic	Bridgeport, CT Main Harbor	24	24	100%	0.17%	24	100%	0.17%
Gulf	Brownsville Ship Channel, TX	52	8	15.38%	0.06%	8	15.38%	0.06%
Atlant ic	Brunswick Hbr, GA	10	10	100%	0.07%	10	100%	0.07%
Great Lakes	Buffalo Harbor, NY	10	10	100%	0.07%	10	100%	0.07%
Atlant ic	Buttermilk Channel, NY	44	22	50.00%	0.16%	22	50.00%	0.16%
Gulf	Calcasieu River and Pass Lake Charles, LA	138	104	75.36%	0.75%	104	75.36%	0.75%
Atlant ic	Camden, NJ	2	2	100%	0.01%	2	100%	0.01%
Atlant ic	Canaveral Harbor, FL	88	56	63.64%	0.41%	56	63.64%	0.41%
Pacifi c	Carquinez Strait, CA	182	62	34.07%	0.45%	62	34.07%	0.45%
Atlant ic	Charleston Cooper River, SC	124	46	37.10%	0.33%	46	37.10%	0.33%
Atlant ic	Charleston Shipyard River, SC	2	0	0%	0%	0	0%	0%
Atlant ic	Chesapeake Bay Open Waters	12	0	0%	0%	0	0%	0%
Atlant ic	Chester, PA	30	22	73.33%	0.16%	22	73.33%	0.16%
Atlant ic	Christina River Wilmington De	58	40	68.97%	0.29%	40	68.97%	0.29%
Atlant ic	Claymont, DE	2	2	100%	0.01%	2	100%	0.01%
Great Lakes	Cleveland Harbor, OH	4	4	100%	0.03%	4	100%	0.03%
Pacifi c	Coos Bay, OR Inside Channel To/Millington, OR	2	2	100%	0.01%	2	100%	0.01%
Gulf	Corpus Christi, TX	1,562	922	59.03%	6.68%	922	59.03%	6.68%
Atlant ic	Davisville, RI	8	8	100%	0.06%	8	100%	0.06%
Atlant ic	Delair, NJ	40	34	85.00%	0.25%	34	85.00%	0.25%

Appendix C-3A
Analysis of Tanker Vessel Constraints, 2000

Coast Name	Port Name/Location Name	Number of calls	Constrained Calls with Projects	Percent of Calls Constrained	Percent of Total Constrained Calls	Constrained Calls without Projects	Percent of Calls Constrained	Percent of Total Constrained Calls
Atlantic	Delaware City, DE	82	70	85.37%	0.51%	70	85.37%	0.51%
Great Lakes	Detroit, MI	2	0	0%	0%	0	0%	0%
Atlantic	Eagle Point Westville, NJ	144	98	68.06%	0.71%	98	68.06%	0.71%
Gulf	East Pearl River, MS	2	2	100%	0.01%	2	100%	0.01%
Atlantic	East River NY Upper NY Bay To USN Shipyard	22	18	81.82%	0.13%	18	81.82%	0.13%
Atlantic	East River, NY/USN Shipyard, Excluding East Channel	10	10	100%	0.07%	10	100%	0.07%
Atlantic	Eastport Hbr, ME	2	2	100%	0.01%	2	100%	0.01%
Atlantic	Eddystone, PA	2	2	100%	0.01%	2	100%	0.01%
Pacific	El Segundo, CA	214	118	55.14%	0.85%	118	55.14%	0.85%
Atlantic	Fajardo Hbr, PR	52	40	76.92%	0.29%	40	76.92%	0.29%
Atlantic	Fall River Hbr, MA	26	8	30.77%	0.06%	8	30.77%	0.06%
Atlantic	Fernandina, FL	2	2	100%	0.01%	2	100%	0.01%
Pacific	Ferndale, WA	74	6	8.11%	0.04%	6	8.11%	0.04%
Gulf	Freeport Harbor, TX	998	442	44.29%	3.20%	442	44.29%	3.20%
Gulf	Galveston Channel, TX	106	56	52.83%	0.41%	56	52.83%	0.41%
Pacific	Grays Hbr & Chehalis River, WA South Aberdeen	2	2	100%	0.01%	2	100%	0.01%
Atlantic	Guanica Hbr, PR	6	6	100%	0.04%	6	100%	0.04%
Atlantic	Guayanilla Hbr, PR	286	148	51.75%	1.07%	148	51.75%	1.07%
Gulf	Gulf Outlet Miles 70-73	8	4	50.00%	0.03%	4	50.00%	0.03%
Gulf	Gulfport Hbr & Ship Is Pass, MS	10	10	100%	0.07%	10	100%	0.07%
Atlantic	Hackensack River NJ/upper End Of Newark Bay Channel/to Koppers Co	6	0	0%	0%	0	0%	0%

Appendix C-3A
Analysis of Tanker Vessel Constraints, 2000

Coast Name	Port Name/Location Name	Number of calls	Constrained Calls with Projects	Percent of Calls Constrained	Percent of Total Constrained Calls	Constrained Calls without Projects	Percent of Calls Constrained	Percent of Total Constrained Calls
	Bulkhead Kearny NJ							
Pacific	Homer, AK	4	4	100%	0.03%	4	100%	0.03%
Pacific	Honolulu Hbr, Oahu, HI	166	58	34.94%	0.42%	58	34.94%	0.42%
Gulf	Houston Ship Channel, TX	4,586	2,044	44.57%	14.80%	2,044	44.57%	14.80%
Great Lakes	Indiana Harbor Indiana East Chicago, IN	8	0	0%	0%	0	0%	0%
Atlantic	Jacksonville Harbor, FL	252	156	61.90%	1.13%	156	61.90%	1.13%
Atlantic	James River & Port of Hopewell, VA	18	8	44.44%	0.06%	8	44.44%	0.06%
Atlantic	Jobos Hbr, PR	116	110	94.83%	0.80%	110	94.83%	0.80%
Pacific	Juneau Gastineau Channel, AK	4	0	0%	0%	0	0%	0%
Pacific	Kalama, WA	18	4	22.22%	0.03%	4	22.22%	0.03%
Pacific	Ketchikan, AK (Tongass Narrows)	4	4	100%	0.03%	4	100%	0.03%
Great Lakes	Lake Calumet, IL	6	6	100%	0.04%	6	100%	0.04%
Pacific	Lake Washington Ship Canal, WA/Ballard	2	2	100%	0.01%	2	100%	0.01%
Pacific	Long Beach Harbor, CA	624	82	13.14%	0.59%	82	13.14%	0.59%
Pacific	Long Beach Outer Harbor, CA	46	0	0%	0%	0	0%	0%
Pacific	Longview (Mt. Coffin)	4	0	0%	0%	0	0%	0%
Pacific	Longview, WA	2	2	100%	0.01%	2	100%	0.01%
Pacific	Los Angeles Harbor, CA	378	0	0%	0%	0	0%	0%
Atlantic	Lower Delaware Bay, DE	236	228	96.61%	1.65%	228	96.61%	1.65%
Gulf	Lower Miss River Mile 108	80	8	10.00%	0.06%	8	10.00%	0.06%
Gulf	Lower Miss River Mile 116	6	2	33.33%	0.01%	2	33.33%	0.01%
Gulf	Lower Miss River Mile 118	242	56	23.14%	0.41%	56	23.14%	0.41%
Gulf	Lower Miss River Mile 120	6	4	66.67%	0.03%	4	66.67%	0.03%

Appendix C-3A
Analysis of Tanker Vessel Constraints, 2000

Coast Name	Port Name/Location Name	Number of calls	Constrained Calls with Projects	Percent of Calls Constrained	Percent of Total Constrained Calls	Constrained Calls without Projects	Percent of Calls Constrained	Percent of Total Constrained Calls
Gulf	Lower Miss River Mile 125	32	14	43.75%	0.10%	14	43.75%	0.10%
Gulf	Lower Miss River Mile 126	34	4	11.76%	0.03%	4	11.76%	0.03%
Gulf	Lower Miss River Mile 127	34	2	5.88%	0.01%	2	5.88%	0.01%
Gulf	Lower Miss River Mile 128	50	10	20.00%	0.07%	10	20.00%	0.07%
Gulf	Lower Miss River Mile 139	46	8	17.39%	0.06%	8	17.39%	0.06%
Gulf	Lower Miss River Mile 140	72	66	91.67%	0.48%	66	91.67%	0.48%
Gulf	Lower Miss River Mile 144	58	0	0%	0%	0	0%	0%
Gulf	Lower Miss River Mile 145	8	4	50.00%	0.03%	4	50.00%	0.03%
Gulf	Lower Miss River Mile 148	48	48	100%	0.35%	48	100%	0.35%
Gulf	Lower Miss River Mile 158	4	0	0%	0%	0	0%	0%
Gulf	Lower Miss River Mile 159	130	118	90.77%	0.85%	118	90.77%	0.85%
Gulf	Lower Miss River Mile 160	22	20	90.91%	0.14%	20	90.91%	0.14%
Gulf	Lower Miss River Mile 161	24	0	0%	0%	0	0%	0%
Gulf	Lower Miss River Mile 166	38	6	15.79%	0.04%	6	15.79%	0.04%
Gulf	Lower Miss River Mile 167	4	4	100%	0.03%	4	100%	0.03%
Gulf	Lower Miss River Mile 168	42	34	80.95%	0.25%	34	80.95%	0.25%
Gulf	Lower Miss River Mile 173	14	0	0%	0%	0	0%	0%
Gulf	Lower Miss River Mile 183	80	0	0%	0%	0	0%	0%
Gulf	Lower Miss River Mile 187	12	0	0%	0%	0	0%	0%
Gulf	Lower Miss River Mile 2	2	0	0%	0%	0	0%	0%
Gulf	Lower Miss River Mile 200	4	0	0%	0%	0	0%	0%
Gulf	Lower Miss River Mile 203	28	2	7.14%	0.01%	2	7.14%	0.01%
Gulf	Lower Miss River Mile 205	88	0	0%	0%	0	0%	0%
Gulf	Lower Miss River Mile 210	74	4	5.41%	0.03%	4	5.41%	0.03%
Gulf	Lower Miss River Mile 27	82	82	100%	0.59%	82	100%	0.59%
Gulf	Lower Miss River Mile 61	8	4	50.00%	0.03%	4	50.00%	0.03%
Gulf	Lower Miss River Mile 63	14	10	71.43%	0.07%	10	71.43%	0.07%
Gulf	Lower Miss River Mile 72	126	54	42.86%	0.39%	54	42.86%	0.39%
Gulf	Lower Miss River Mile 83	72	20	27.78%	0.14%	20	27.78%	0.14%
Gulf	Lower Miss River Mile 87	64	48	75.00%	0.35%	48	75.00%	0.35%
Atlantic	Marcus Hook, PA	342	272	79.53%	1.97%	272	79.53%	1.97%
Gulf	Matagorda Ship Channel, TX	354	212	59.89%	1.54%	212	59.89%	1.54%
Atlantic	Mayaguez Hbr, PR	4	0	0%	0%	0	0%	0%
Atlantic	Miami Harbor, FL	76	66	86.84%	0.48%	66	86.84%	0.48%
Atlantic	Miami River, FL	26	26	100%	0.19%	26	100%	0.19%

Appendix C-3A
Analysis of Tanker Vessel Constraints, 2000

Coast Name	Port Name/Location Name	Number of calls	Constrained Calls with Projects	Percent of Calls Constrained	Percent of Total Constrained Calls	Constrained Calls without Projects	Percent of Calls Constrained	Percent of Total Constrained Calls
ic								
Gulf	Mobile Harbor AL	178	130	73.03%	0.94%	130	73.03%	0.94%
Atlant ic	Morehead City Hbr, NC	106	0	0%	0%	0	0%	0%
Atlant ic	Morrisville, PA	8	8	100%	0.06%	8	100%	0.06%
Great Lakes	Muskegon Harbor, MI	4	4	100%	0.03%	4	100%	0.03%
Atlant ic	New Bedford & Fairhaven Hbr, MA	6	6	100%	0.04%	6	100%	0.04%
Atlant ic	New Haven, CT Main Harbor	46	46	100%	0.33%	46	100%	0.33%
Atlant ic	New London Harbor, CT	2	0	0%	0%	0	0%	0%
Gulf	New Orleans, LA, Miles 88 Thru 106	432	170	39.35%	1.23%	170	39.35%	1.23%
Atlant ic	New York & New Jersey Channels Main Ship Chan To Smith Creek NJ	38	32	84.21%	0.23%	32	84.21%	0.23%
Atlant ic	New York & New Jersey Channels Piles Creek/to Kill Van Kull Exc Channels South/of Shooters Island	228	212	92.98%	1.54%	212	92.98%	1.54%
Atlant ic	New York & New Jersey Channels Smith Creek To Piles Creek NJ	110	96	87.27%	0.70%	96	87.27%	0.70%
Atlant ic	New York & New Jersey Channels/Housman Avenue To St George S I	158	62	39.24%	0.45%	62	39.24%	0.45%
Atlant ic	Newark Bay NJ Offshore Connecting Channel/between Port Newark And Port Elizabeth/branch Channels	18	4	22.22%	0.03%	4	22.22%	0.03%
Atlant ic	Newark Bay NJ Port Newark Branch Channel	116	28	24.14%	0.20%	28	24.14%	0.20%
Atlant ic	Newark Bay NJ-port Elizabeth Branch Channel	58	38	65.52%	0.28%	38	65.52%	0.28%
Atlant ic	Newport News , VA	48	2	4.17%	0.01%	2	4.17%	0.01%

Appendix C-3A
Analysis of Tanker Vessel Constraints, 2000

Coast Name	Port Name/Location Name	Number of calls	Constrained Calls with Projects	Percent of Calls Constrained	Percent of Total Constrained Calls	Constrained Calls without Projects	Percent of Calls Constrained	Percent of Total Constrained Calls
Great Lakes	Niagara River New York Or Harriet	6	0	0%	0%	0	0%	0%
Pacific	Nikishki, AK	98	62	63.27%	0.45%	62	63.27%	0.45%
Atlantic	Norfolk Harbor, VA Portsmouth VA	138	4	2.90%	0.03%	4	2.90%	0.03%
Atlantic	Norfolk Hbr, VA Eastern Br Eliz R	10	0	0%	0%	0	0%	0%
Atlantic	Norfolk Hbr, VA Southern Br Eliz R	34	0	0%	0%	0	0%	0%
Atlantic	Northeast, Cape Fear River NC	42	8	19.05%	0.06%	8	19.05%	0.06%
Atlantic	Northville L.I., NY	16	4	25.00%	0.03%	4	25.00%	0.03%
Pacific	Oakland Harbor, CA Codes 000-380, 400-835, & 840-999	34	14	41.18%	0.10%	14	41.18%	0.10%
Pacific	Oregon Slough Oregon And Bay, OR	12	8	66.67%	0.06%	8	66.67%	0.06%
Great Lakes	Oswego Harbor, NY	36	0	0%	0%	0	0%	0%
Atlantic	Palm Beach Harbor, FL	72	66	91.67%	0.48%	66	91.67%	0.48%
Gulf	Panama City Harbor, FL	14	4	28.57%	0.03%	4	28.57%	0.03%
Atlantic	Paulsboro, NJ	268	226	84.33%	1.64%	226	84.33%	1.64%
Atlantic	Penobscot River, ME	28	26	92.86%	0.19%	26	92.86%	0.19%
Gulf	Pensacola Hbr, FL	2	2	100%	0.01%	2	100%	0.01%
Atlantic	Philadelphia, PA On Delaware River/Allegheny Ave To Poquessing Creek	68	2	2.94%	0.01%	2	2.94%	0.01%
Atlantic	Piscataqua River, NH	198	178	89.90%	1.29%	178	89.90%	1.29%
Pacific	Pittsburg, CA	2	0	0%	0%	0	0%	0%
Atlantic	Plymouth Harbor, MA	2	2	100%	0.01%	2	100%	0.01%
Atlantic	Ponce Harbor, PR	76	40	52.63%	0.29%	40	52.63%	0.29%

Appendix C-3A
Analysis of Tanker Vessel Constraints, 2000

Coast Name	Port Name/Location Name	Number of calls	Constrained Calls with Projects	Percent of Calls Constrained	Percent of Total Constrained Calls	Constrained Calls without Projects	Percent of Calls Constrained	Percent of Total Constrained Calls
Pacific	Port Angeles Harbor, WA	12	10	83.33%	0.07%	10	83.33%	0.07%
Gulf	Port Arthur, TX	148	82	55.41%	0.59%	82	55.41%	0.59%
Atlantic	Port Everglades Hbr, FL	300	206	68.67%	1.49%	206	68.67%	1.49%
Pacific	Port Hueneme, CA	18	16	88.89%	0.12%	16	88.89%	0.12%
Gulf	Port Manatee, FL	18	2	11.11%	0.01%	2	11.11%	0.01%
Atlantic	Portland Harbor, Fore River, ME	26	26	100%	0.19%	26	100%	0.19%
Atlantic	Portland Harbor, ME	552	546	98.91%	3.95%	546	98.91%	3.95%
Pacific	Portland, OR	126	52	41.27%	0.38%	52	41.27%	0.38%
Atlantic	Portsmouth Hbr, NH	16	12	75.00%	0.09%	12	75.00%	0.09%
Atlantic	Potomac River Below Washington DC/mouth To Giesboro Point	10	10	100%	0.07%	10	100%	0.07%
Atlantic	Providence River and Harbor, RI	182	54	29.67%	0.39%	54	29.67%	0.39%
Atlantic	Rensselaer, NY	6	6	100%	0.04%	6	100%	0.04%
Pacific	Revillagigedo Channel	8	2	25.00%	0.01%	2	25.00%	0.01%
Pacific	Richmond Harbor, CA Outer Harbor, Codes 000-699	380	178	46.84%	1.29%	178	46.84%	1.29%
Great Lakes	Saginaw, MI	2	2	100%	0.01%	2	100%	0.01%
Atlantic	Salem Harbor, MA	2	2	100%	0.01%	2	100%	0.01%
Atlantic	Salem River, NJ	2	2	100%	0.01%	2	100%	0.01%
Pacific	San Diego Harbor, CA	6	4	66.67%	0.03%	4	66.67%	0.03%
Pacific	San Francisco Hbr, CA	126	68	53.97%	0.49%	68	53.97%	0.49%
Atlantic	San Juan Hbr, PR	212	106	50.00%	0.77%	106	50.00%	0.77%

Appendix C-3A
Analysis of Tanker Vessel Constraints, 2000

Coast Name	Port Name/Location Name	Number of calls	Constrained Calls with Projects	Percent of Calls Constrained	Percent of Total Constrained Calls	Constrained Calls without Projects	Percent of Calls Constrained	Percent of Total Constrained Calls
ic								
Pacific	San Pablo Bay & Mare I Strait, CA	56	20	35.71%	0.14%	20	35.71%	0.14%
Atlantic	Savannah Harbor, GA	456	178	39.04%	1.29%	178	39.04%	1.29%
Atlantic	Schuykill River Phila, PA Project	32	18	56.25%	0.13%	18	56.25%	0.13%
Atlantic	Searsport Hbr, Me	98	78	79.59%	0.56%	78	79.59%	0.56%
Pacific	Seattle Harbor, WA East Waterway	20	4	20.00%	0.03%	4	20.00%	0.03%
Pacific	Seattle Harbor, WA Elliott Bay	10	6	60.00%	0.04%	6	60.00%	0.04%
Pacific	Seattle Harbor, WA Harbor Island	82	0	0%	0%	0	0%	0%
Pacific	Seattle Harbor, WA/Richmond Beach To Edmonds	4	2	50.00%	0.01%	2	50.00%	0.01%
Pacific	Stockton, CA	62	28	45.16%	0.20%	28	45.16%	0.20%
Pacific	Suisun Bay Channel, CA	6	6	100%	0.04%	6	100%	0.04%
Great Lakes	Superior, WI	2	2	100%	0.01%	2	100%	0.01%
Pacific	Tacoma Harbor, WA	88	72	81.82%	0.52%	72	81.82%	0.52%
Gulf	Tampa Harbor, FL	406	6	1.48%	0.04%	6	1.48%	0.04%
Gulf	Texas City, TX	1,266	822	64.93%	5.95%	822	64.93%	5.95%
Atlantic	Thru 04470 Philadelphia, PA On Delaware Rv/Hog Island To Allegheny Ave	354	274	77.40%	1.98%	274	77.40%	1.98%
Gulf	Thru 66540 Giww Galveston To Corpus Christi	38	26	68.42%	0.19%	26	68.42%	0.19%
Great Lakes	Thru 77647 Port Of Chicago Il/calumet Harbor, & River Il & In-south Chicago	2	2	100%	0.01%	2	100%	0.01%
Great Lakes	Toledo, OH	52	28	53.85%	0.20%	28	53.85%	0.20%

Appendix C-3A
Analysis of Tanker Vessel Constraints, 2000

Coast Name	Port Name/Location Name	Number of calls	Constrained Calls with Projects	Percent of Calls Constrained	Percent of Total Constrained Calls	Constrained Calls without Projects	Percent of Calls Constrained	Percent of Total Constrained Calls
Pacific	Unak Bay & Island, AK/(Iliuliuk & Dutch Hbr.)	2	2	100%	0.01%	2	100%	0.01%
Atlantic	Upper Bay, NY Narrows To/Municipal Ferry Dock St Geo Si/exc Bay Ridge Red Hook & Buttermilk Channels	644	246	38.20%	1.78%	246	38.20%	1.78%
Atlantic	Upper Bay, NY/Bayonne NJ To Claremont NJ/bay Ridge Flats And Bedloes Is	56	28	50.00%	0.20%	28	50.00%	0.20%
Pacific	Valdez, AK	18	0	0%	0%	0	0%	0%
Pacific	Vancouver, WA	4	4	100%	0.03%	4	100%	0.03%
Atlantic	Wando River, SC	2	2	100%	0.01%	2	100%	0.01%
Atlantic	Wilmington Harbor, NC	182	96	52.75%	0.70%	96	52.75%	0.70%
Atlantic	Wilmington Harbor, Southport NC	38	12	31.58%	0.09%	12	31.58%	0.09%
Pacific	Yolo Port District, CA	12	2	16.67%	0.01%	2	16.67%	0.01%
Atlantic	York River, VA	56	56	100%	0.41%	56	100%	0.41%

Appendix C-3B
Analysis of Tanker Vessel Constraints, 2010

Coast Name	Port Name/Location Name	Number of calls	Constrained Calls with Projects	Percent of Calls Constrained	Percent of Total Constrained Calls	Constrained Calls without Projects	Percent of Calls Constrained	Percent of Total Constrained Calls
Atlantic	Albany, NY	25	20	80.00%	0.16%	20	80.00%	0.13%
Pacific	Anacortes Harbor, WA	79	65	82.28%	0.53%	65	82.28%	0.41%
Pacific	Anchorage, AK	18	0	0%	0%	0	0%	0%
Atlantic	Arecibo Harbor, PR	4	0	0%	0%	0	0%	0%
Atlantic	Asharoken, L I	7	0	0%	0%	0	0%	0%
Pacific	Astoria, OR	8	0	0%	0%	0	0%	0%
Gulf	Atchafalaya R Morgan Cty To Gulf	2	2	100%	0.02%	2	100%	0.01%
Atlantic	Baltimore Hbr and Channels, MD	264	5	1.89%	0.04%	5	1.89%	0.03%
Great Lakes	Bangor Township, MI	2	2	100%	0.02%	2	100%	0.01%
Pacific	Barbers Point Channel Oahu	88	51	57.95%	0.41%	68	77.27%	0.43%
Gulf	Baton Rouge, LA Miles 226 Thru 235	281	39	13.88%	0.32%	139	49.47%	0.88%
Atlantic	Bay Ridge Channel, NY	3	0	0%	0%	0	0%	0%
Gulf	Bayou Casotte, MS	533	506	94.93%	4.11%	506	94.93%	3.22%
Gulf	Beaumont, TX	2,090	1,697	81.20%	13.78%	1,697	81.20%	10.79%
Pacific	Bellingham Bay & Harbor, WA/Whatcom Creek Waterway	34	28	82.35%	0.23%	28	82.35%	0.18%
Atlantic	Boston MA Island End River	141	30	21.28%	0.24%	30	21.28%	0.19%
Atlantic	Boston MA Town River	34	32	94.12%	0.26%	32	94.12%	0.20%
Atlantic	Boston, MA Chelsea River	317	195	61.51%	1.58%	195	61.51%	1.24%
Atlantic	Boston, MA Main Water Front	93	0	0%	0%	7	7.53%	0.04%
Atlantic	Boston, MA Mystic River	82	66	80.49%	0.54%	66	80.49%	0.42%

Appendix C-3B
Analysis of Tanker Vessel Constraints, 2010

Coast Name	Port Name/Location Name	Number of calls	Constrained Calls with Projects	Percent of Calls Constrained	Percent of Total Constrained Calls	Constrained Calls without Projects	Percent of Calls Constrained	Percent of Total Constrained Calls
Atlantic	Boston, MA Weymouth Fore River	17	15	88.24%	0.12%	15	88.24%	0.10%
Atlantic	Bridgeport, CT Main Harbor	28	28	100%	0.23%	28	100%	0.18%
Gulf	Brownsville Ship Channel, TX	65	9	13.85%	0.07%	9	13.85%	0.06%
Atlantic	Brunswick Hbr, GA	13	11	84.62%	0.09%	13	100%	0.08%
Great Lakes	Buffalo Harbor, NY	12	12	100%	0.10%	12	100%	0.08%
Atlantic	Buttermilk Channel, NY	58	27	46.55%	0.22%	27	46.55%	0.17%
Gulf	Calcasieu River and Pass Lake Charles, LA	152	112	73.68%	0.91%	112	73.68%	0.71%
Atlantic	Camden, NJ	2	0	0%	0%	2	100%	0.01%
Atlantic	Canaveral Harbor, FL	103	68	66.02%	0.55%	68	66.02%	0.43%
Pacific	Carquinez Strait, CA	262	69	26.34%	0.56%	69	26.34%	0.44%
Atlantic	Charleston Cooper River, SC	171	10	5.85%	0.08%	59	34.50%	0.38%
Atlantic	Charleston Shipyard River, SC	2	0	0%	0%	0	0%	0%
Atlantic	Chesapeake Bay Open Waters	13	0	0%	0%	0	0%	0%
Atlantic	Chester, PA	35	23	65.71%	0.19%	23	65.71%	0.15%
Atlantic	Christina River Wilmington De	82	57	69.51%	0.46%	57	69.51%	0.36%
Atlantic	Claymont, DE	2	2	100%	0.02%	2	100%	0.01%
Great Lakes	Cleveland Harbor, OH	5	5	100%	0.04%	5	100%	0.03%
Pacific	Coos Bay, OR Inside Channel To/Millington, OR	2	2	100%	0.02%	2	100%	0.01%
Gulf	Corpus Christi, TX	1,788	233	13.03%	1.89%	993	55.54%	6.32%
Atlantic	Davisville, RI	12	12	100%	0.10%	12	100%	0.08%
Atlantic	Delair, NJ	49	42	85.71%	0.34%	42	85.71%	0.27%

Appendix C-3B
Analysis of Tanker Vessel Constraints, 2010

Coast Name	Port Name/Location Name	Number of calls	Constrained Calls with Projects	Percent of Calls Constrained	Percent of Total Constrained Calls	Constrained Calls without Projects	Percent of Calls Constrained	Percent of Total Constrained Calls
Atlantic								
Atlantic	Delaware City, DE	98	68	69.39%	0.55%	79	80.61%	0.50%
Great Lakes	Detroit, MI	3	0	0%	0%	0	0%	0%
Atlantic	Eagle Point Westville, NJ	186	101	54.30%	0.82%	112	60.22%	0.71%
Gulf	East Pearl River, MS	2	2	100%	0.02%	2	100%	0.01%
Atlantic	East River NY Upper NY Bay To USN Shipyard	26	22	84.62%	0.18%	22	84.62%	0.14%
Atlantic	East River, NY/USN Shipyard, Excluding East Channel	13	13	100%	0.11%	13	100%	0.08%
Atlantic	Eastport Hbr, ME	2	2	100%	0.02%	2	100%	0.01%
Atlantic	Eddystone, PA	2	2	100%	0.02%	2	100%	0.01%
Pacific	El Segundo, CA	266	130	48.87%	1.06%	130	48.87%	0.83%
Atlantic	Fajardo Hbr, PR	60	47	78.33%	0.38%	47	78.33%	0.30%
Atlantic	Fall River Hbr, MA	31	9	29.03%	0.07%	9	29.03%	0.06%
Atlantic	Fernandina, FL	3	3	100%	0.02%	3	100%	0.02%
Pacific	Ferndale, WA	88	6	6.82%	0.05%	6	6.82%	0.04%
Gulf	Freeport Harbor, TX	1,154	474	41.07%	3.85%	474	41.07%	3.01%
Gulf	Galveston Channel, TX	123	53	43.09%	0.43%	62	50.41%	0.39%
Pacific	Grays Hbr & Chehalis River, WA South Aberdeen	2	2	100%	0.02%	2	100%	0.01%
Atlantic	Guanica Hbr, PR	8	8	100%	0.06%	8	100%	0.05%
Atlantic	Guayanilla Hbr, PR	328	169	51.52%	1.37%	169	51.52%	1.07%
Gulf	Gulf Outlet Miles 70-73	9	4	44.44%	0.03%	4	44.44%	0.03%
Gulf	Gulfport Hbr & Ship Is Pass, MS	12	12	100%	0.10%	12	100%	0.08%
Atlantic	Hackensack River NJ/upper End Of Newark Bay	7	0	0%	0%	0	0%	0%

Appendix C-3B
Analysis of Tanker Vessel Constraints, 2010

Coast Name	Port Name/Location Name	Number of calls	Constrained Calls with Projects	Percent of Calls Constrained	Percent of Total Constrained Calls	Constrained Calls without Projects	Percent of Calls Constrained	Percent of Total Constrained Calls
	Channel/to Koppers Co Bulkhead Kearny NJ							
Pacific	Homer, AK	5	5	100%	0.04%	5	100%	0.03%
Pacific	Honolulu Hbr, Oahu, HI	193	62	32.12%	0.50%	62	32.12%	0.39%
Gulf	Houston Ship Channel, TX	5,368	1,579	29.42%	12.82%	2,306	42.96%	14.67%
Great Lakes	Indiana Harbor Indiana East Chicago, IN	11	0	0%	0%	0	0%	0%
Atlantic	Jacksonville Harbor, FL	262	153	58.40%	1.24%	186	70.99%	1.18%
Atlantic	James River & Port of Hopewell, VA	22	10	45.45%	0.08%	10	45.45%	0.06%
Atlantic	Jobos Hbr, PR	139	133	95.68%	1.08%	133	95.68%	0.85%
Pacific	Juneau Gastineau Channel, AK	5	0	0%	0%	0	0%	0%
Pacific	Kalama, WA	27	5	18.52%	0.04%	5	18.52%	0.03%
Pacific	Ketchikan, AK (Tongass Narrows)	5	5	100%	0.04%	5	100%	0.03%
Great Lakes	Lake Calumet, IL	10	10	100%	0.08%	10	100%	0.06%
Pacific	Lake Washington Ship Canal, WA/Ballard	4	4	100%	0.03%	4	100%	0.03%
Pacific	Long Beach Harbor, CA	797	9	1.13%	0.07%	93	11.67%	0.59%
Pacific	Long Beach Outer Harbor, CA	53	0	0%	0%	0	0%	0%
Pacific	Longview (Mt. Coffin)	5	0	0%	0%	0	0%	0%
Pacific	Longview, WA	3	3	100%	0.02%	3	100%	0.02%
Pacific	Los Angeles Harbor, CA	494	0	0%	0%	0	0%	0%
Atlantic	Lower Delaware Bay, DE	252	243	96.43%	1.97%	243	96.43%	1.55%
Gulf	Lower Miss River Mile 108	104	2	1.92%	0.02%	10	9.62%	0.06%
Gulf	Lower Miss River Mile 116	8	2	25.00%	0.02%	2	25.00%	0.01%
Gulf	Lower Miss River Mile 118	325	20	6.15%	0.16%	63	19.38%	0.40%

Appendix C-3B
Analysis of Tanker Vessel Constraints, 2010

Coast Name	Port Name/Location Name	Number of calls	Constrained Calls with Projects	Percent of Calls Constrained	Percent of Total Constrained Calls	Constrained Calls without Projects	Percent of Calls Constrained	Percent of Total Constrained Calls
Gulf	Lower Miss River Mile 120	7	0	0%	0%	5	71.43%	0.03%
Gulf	Lower Miss River Mile 125	39	0	0%	0%	16	41.03%	0.10%
Gulf	Lower Miss River Mile 126	42	2	4.76%	0.02%	4	9.52%	0.03%
Gulf	Lower Miss River Mile 127	47	0	0%	0%	2	4.26%	0.01%
Gulf	Lower Miss River Mile 128	60	0	0%	0%	10	16.67%	0.06%
Gulf	Lower Miss River Mile 139	61	0	0%	0%	9	14.75%	0.06%
Gulf	Lower Miss River Mile 140	80	26	32.50%	0.21%	73	91.25%	0.46%
Gulf	Lower Miss River Mile 144	67	0	0%	0%	0	0%	0%
Gulf	Lower Miss River Mile 145	9	2	22.22%	0.02%	4	44.44%	0.03%
Gulf	Lower Miss River Mile 148	52	26	50.00%	0.21%	52	100%	0.33%
Gulf	Lower Miss River Mile 158	6	0	0%	0%	0	0%	0%
Gulf	Lower Miss River Mile 159	145	34	23.45%	0.28%	129	88.97%	0.82%
Gulf	Lower Miss River Mile 160	24	2	8.33%	0.02%	21	87.50%	0.13%
Gulf	Lower Miss River Mile 161	30	0	0%	0%	0	0%	0%
Gulf	Lower Miss River Mile 166	46	0	0%	0%	7	15.22%	0.04%
Gulf	Lower Miss River Mile 167	6	3	50.00%	0.02%	6	100%	0.04%
Gulf	Lower Miss River Mile 168	47	9	19.15%	0.07%	38	80.85%	0.24%
Gulf	Lower Miss River Mile 173	19	0	0%	0%	0	0%	0%
Gulf	Lower Miss River Mile 183	101	0	0%	0%	0	0%	0%
Gulf	Lower Miss River Mile 187	18	0	0%	0%	0	0%	0%
Gulf	Lower Miss River Mile 2	2	0	0%	0%	0	0%	0%
Gulf	Lower Miss River Mile 200	6	0	0%	0%	0	0%	0%
Gulf	Lower Miss River Mile 203	29	0	0%	0%	3	10.34%	0.02%
Gulf	Lower Miss River Mile 205	106	0	0%	0%	0	0%	0%
Gulf	Lower Miss River Mile 210	90	4	4.44%	0.03%	4	4.44%	0.03%
Gulf	Lower Miss River Mile 27	89	32	35.96%	0.26%	89	100%	0.57%
Gulf	Lower Miss River Mile 61	9	2	22.22%	0.02%	4	44.44%	0.03%
Gulf	Lower Miss River Mile 63	15	2	13.33%	0.02%	11	73.33%	0.07%
Gulf	Lower Miss River Mile 72	151	22	14.57%	0.18%	59	39.07%	0.38%
Gulf	Lower Miss River Mile 83	103	10	9.71%	0.08%	23	22.33%	0.15%
Gulf	Lower Miss River Mile 87	70	22	31.43%	0.18%	52	74.29%	0.33%
Atlantic	Marcus Hook, PA	404	286	70.79%	2.32%	300	74.26%	1.91%
Gulf	Matagorda Ship Channel, TX	411	244	59.37%	1.98%	244	59.37%	1.55%
Atlantic	Mayaguez Hbr, PR	4	0	0%	0%	0	0%	0%
Atlantic	Miami Harbor, FL	108	40	37.04%	0.32%	96	88.89%	0.61%

Appendix C-3B
Analysis of Tanker Vessel Constraints, 2010

Coast Name	Port Name/Location Name	Number of calls	Constrained Calls with Projects	Percent of Calls Constrained	Percent of Total Constrained Calls	Constrained Calls without Projects	Percent of Calls Constrained	Percent of Total Constrained Calls
Atlantic	Miami River, FL	33	33	100%	0.27%	33	100%	0.21%
Gulf	Mobile Harbor AL	196	30	15.31%	0.24%	142	72.45%	0.90%
Atlantic	Morehead City Hbr, NC	128	0	0%	0%	0	0%	0%
Atlantic	Morrisville, PA	10	10	100%	0.08%	10	100%	0.06%
Great Lakes	Muskegon Harbor, MI	6	6	100%	0.05%	6	100%	0.04%
Atlantic	New Bedford & Fairhaven Hbr, MA	7	7	100%	0.06%	7	100%	0.04%
Atlantic	New Haven, CT Main Harbor	58	58	100%	0.47%	58	100%	0.37%
Atlantic	New London Harbor, CT	3	0	0%	0%	0	0%	0%
Gulf	New Orleans, LA, Miles 88 Thru 106	548	67	12.23%	0.54%	187	34.12%	1.19%
Atlantic	New York & New Jersey Channels Main Ship Chan To Smith Creek NJ	47	38	80.85%	0.31%	38	80.85%	0.24%
Atlantic	New York & New Jersey Channels Piles Creek/to Kill Van Kull Exc Channels South/of Shooters Island	256	207	80.86%	1.68%	237	92.58%	1.51%
Atlantic	New York & New Jersey Channels Smith Creek To Piles Creek NJ	141	119	84.40%	0.97%	119	84.40%	0.76%
Atlantic	New York & New Jersey Channels/Housman Avenue To St George S I	218	0	0%	0%	80	36.70%	0.51%
Atlantic	Newark Bay NJ Offshore Connecting Channel/between Port Newark And Port Elizabeth/branch Channels	25	0	0%	0%	4	16.00%	0.03%
Atlantic	Newark Bay NJ Port Newark Branch Channel	171	0	0%	0%	35	20.47%	0.22%
Atlantic	Newark Bay NJ-port Elizabeth Branch Channel	77	2	2.60%	0.02%	45	58.44%	0.29%
Atlantic	Newport News , VA	58	3	5.17%	0.02%	3	5.17%	0.02%

Appendix C-3B
Analysis of Tanker Vessel Constraints, 2010

Coast Name	Port Name/Location Name	Number of calls	Constrained Calls with Projects	Percent of Calls Constrained	Percent of Total Constrained Calls	Constrained Calls without Projects	Percent of Calls Constrained	Percent of Total Constrained Calls
ic								
Great Lakes	Niagara River New York Or Harriet	7	0	0%	0%	0	0%	0%
Pacific	Nikishki, AK	112	67	59.82%	0.54%	67	59.82%	0.43%
Atlantic	Norfolk Harbor, VA Portsmouth VA	174	4	2.30%	0.03%	4	2.30%	0.03%
Atlantic	Norfolk Hbr, VA Eastern Br Eliz R	16	0	0%	0%	0	0%	0%
Atlantic	Norfolk Hbr, VA Southern Br Eliz R	40	0	0%	0%	0	0%	0%
Atlantic	Northeast, Cape Fear River NC	62	13	20.97%	0.11%	13	20.97%	0.08%
Atlantic	Northville L.I., NY	19	4	21.05%	0.03%	4	21.05%	0.03%
Pacific	Oakland Harbor, CA Codes 000-380, 400-835, & 840-999	47	4	8.51%	0.03%	20	42.55%	0.13%
Pacific	Oregon Slough Oregon And Bay, OR	14	10	71.43%	0.08%	10	71.43%	0.06%
Great Lakes	Oswego Harbor, NY	35	0	0%	0%	0	0%	0%
Atlantic	Palm Beach Harbor, FL	98	91	92.86%	0.74%	91	92.86%	0.58%
Gulf	Panama City Harbor, FL	22	6	27.27%	0.05%	6	27.27%	0.04%
Atlantic	Paulsboro, NJ	298	234	78.52%	1.90%	239	80.20%	1.52%
Atlantic	Penobscot River, ME	35	32	91.43%	0.26%	32	91.43%	0.20%
Gulf	Pensacola Hbr, FL	2	2	100%	0.02%	2	100%	0.01%
Atlantic	Philadelphia, PA On Delaware River/Allegheny Ave To Poquessing Creek	101	3	2.97%	0.02%	3	2.97%	0.02%
Atlantic	Piscataqua River, NH	246	217	88.21%	1.76%	217	88.21%	1.38%
Pacific	Pittsburg, CA	3	0	0%	0%	0	0%	0%
Atlantic	Plymouth Harbor, MA	2	2	100%	0.02%	2	100%	0.01%
Atlantic	Ponce Harbor, PR	85	47	55.29%	0.38%	47	55.29%	0.30%

Appendix C-3B
Analysis of Tanker Vessel Constraints, 2010

Coast Name	Port Name/Location Name	Number of calls	Constrained Calls with Projects	Percent of Calls Constrained	Percent of Total Constrained Calls	Constrained Calls without Projects	Percent of Calls Constrained	Percent of Total Constrained Calls
ic								
Pacifi c	Port Angeles Harbor, WA	14	11	78.57%	0.09%	11	78.57%	0.07%
Gulf	Port Arthur, TX	176	100	56.82%	0.81%	100	56.82%	0.64%
Atlant ic	Port Everglades Hbr, FL	378	265	70.11%	2.15%	265	70.11%	1.69%
Pacifi c	Port Hueneme, CA	24	21	87.50%	0.17%	21	87.50%	0.13%
Gulf	Port Manatee, FL	23	2	8.70%	0.02%	2	8.70%	0.01%
Atlant ic	Portland Harbor, Fore River, ME	31	31	100%	0.25%	31	100%	0.20%
Atlant ic	Portland Harbor, ME	621	613	98.71%	4.98%	613	98.71%	3.90%
Pacifi c	Portland, OR	164	62	37.80%	0.50%	62	37.80%	0.39%
Atlant ic	Portsmouth Hbr, NH	18	14	77.78%	0.11%	14	77.78%	0.09%
Atlant ic	Potomac River Below Washington DC/mouth To Giesboro Point	11	11	100%	0.09%	11	100%	0.07%
Atlant ic	Providence River and Harbor, RI	219	64	29.22%	0.52%	64	29.22%	0.41%
Atlant ic	Rensselaer, NY	7	7	100%	0.06%	7	100%	0.04%
Pacifi c	Revillagigedo Channel	10	3	30.00%	0.02%	3	30.00%	0.02%
Pacifi c	Richmond Harbor, CA Outer Harbor, Codes 000-699	473	166	35.10%	1.35%	200	42.28%	1.27%
Great Lakes	Saginaw, MI	2	2	100%	0.02%	2	100%	0.01%
Atlant ic	Salem Harbor, MA	2	2	100%	0.02%	2	100%	0.01%
Atlant ic	Salem River, NJ	2	2	100%	0.02%	2	100%	0.01%
Pacifi c	San Diego Harbor, CA	8	5	62.50%	0.04%	5	62.50%	0.03%
Pacifi c	San Francisco Hbr, CA	175	88	50.29%	0.71%	88	50.29%	0.56%

Appendix C-3B
Analysis of Tanker Vessel Constraints, 2010

Coast Name	Port Name/Location Name	Number of calls	Constrained Calls with Projects	Percent of Calls Constrained	Percent of Total Constrained Calls	Constrained Calls without Projects	Percent of Calls Constrained	Percent of Total Constrained Calls
c								
Atlantic	San Juan Hbr, PR	243	120	49.38%	0.97%	120	49.38%	0.76%
Pacific	San Pablo Bay & Mare I Strait, CA	82	21	25.61%	0.17%	21	25.61%	0.13%
Atlantic	Savannah Harbor, GA	601	63	10.48%	0.51%	220	36.61%	1.40%
Atlantic	Schuykill River Phila, PA Project	55	34	61.82%	0.28%	34	61.82%	0.22%
Atlantic	Searsport Hbr, Me	123	98	79.67%	0.80%	98	79.67%	0.62%
Pacific	Seattle Harbor, WA East Waterway	25	0	0%	0%	5	20.00%	0.03%
Pacific	Seattle Harbor, WA Elliott Bay	13	8	61.54%	0.06%	8	61.54%	0.05%
Pacific	Seattle Harbor, WA Harbor Island	109	0	0%	0%	0	0%	0%
Pacific	Seattle Harbor, WA/Richmond Beach To Edmonds	5	2	40.00%	0.02%	2	40.00%	0.01%
Pacific	Stockton, CA	75	33	44.00%	0.27%	33	44.00%	0.21%
Pacific	Suisun Bay Channel, CA	8	8	100%	0.06%	8	100%	0.05%
Great Lakes	Superior, WI	2	2	100%	0.02%	2	100%	0.01%
Pacific	Tacoma Harbor, WA	122	100	81.97%	0.81%	100	81.97%	0.64%
Gulf	Tampa Harbor, FL	538	6	1.12%	0.05%	6	1.12%	0.04%
Gulf	Texas City, TX	1,428	893	62.54%	7.25%	893	62.54%	5.68%
Atlantic	Thru 04470 Philadelphia, PA On Delaware Rv/Hog Island To Allegheny Ave	408	291	71.32%	2.36%	303	74.26%	1.93%
Gulf	Thru 66540 Giww Galveston To Corpus Christi	46	30	65.22%	0.24%	30	65.22%	0.19%
Great Lakes	Thru 77647 Port Of Chicago Il/calumet Harbor, & River Il & In-south	3	3	100%	0.02%	3	100%	0.02%

Appendix C-3B
Analysis of Tanker Vessel Constraints, 2010

Coast Name	Port Name/Location Name	Number of calls	Constrained Calls with Projects	Percent of Calls Constrained	Percent of Total Constrained Calls	Constrained Calls without Projects	Percent of Calls Constrained	Percent of Total Constrained Calls
	Chicago							
Great Lakes	Toledo, OH	72	39	54.17%	0.32%	39	54.17%	0.25%
Pacific	Unak Bay & Island, AK/(Iliuliuk & Dutch Hbr.)	3	3	100%	0.02%	3	100%	0.02%
Atlantic	Upper Bay, NY Narrows To/Municipal Ferry Dock St Geo Si/exc Bay Ridge Red Hook & Buttermilk Channels	777	41	5.28%	0.33%	281	36.16%	1.79%
Atlantic	Upper Bay, NY/Bayonne NJ To Claremont NJ/bay Ridge Flats And Bedloes Is	78	0	0%	0%	40	51.28%	0.25%
Pacific	Valdez, AK	16	0	0%	0%	0	0%	0%
Pacific	Vancouver, WA	4	4	100%	0.03%	4	100%	0.03%
Atlantic	Wando River, SC	3	0	0%	0%	3	100%	0.02%
Atlantic	Wilmington Harbor, NC	282	45	15.96%	0.37%	144	51.06%	0.92%
Atlantic	Wilmington Harbor, Southport NC	47	0	0%	0%	14	29.79%	0.09%
Pacific	Yolo Port District, CA	15	2	13.33%	0.02%	2	13.33%	0.01%
Atlantic	York River, VA	71	71	100%	0.58%	71	100%	0.45%

Appendix C-3C
Analysis of Tanker Vessel Constraints, 2020

Coast Name	Port Name/Location Name	Number of calls	Constrained Calls with Projects	Percent of Calls Constrained	Percent of Total Constrained Calls	Constrained Calls without Projects	Percent of Calls Constrained	Percent of Total Constrained Calls
Atlantic	Albany, NY	27	22	81.48%	0.18%	22	81.48%	0.13%
Pacific	Anacortes Harbor, WA	88	71	80.68%	0.57%	71	80.68%	0.41%
Pacific	Anchorage, AK	20	0	0%	0%	0	0%	0%
Atlantic	Arecibo Harbor, PR	4	0	0%	0%	0	0%	0%
Atlantic	Asharoken, L I	7	0	0%	0%	0	0%	0%
Pacific	Astoria, OR	10	0	0%	0%	0	0%	0%
Gulf	Atchafalaya R Morgan Cty To Gulf	2	2	100%	0.02%	2	100%	0.01%
Atlantic	Baltimore Hbr and Channels, MD	309	5	1.62%	0.04%	5	1.62%	0.03%
Great Lakes	Bangor Township, MI	3	3	100%	0.02%	3	100%	0.02%
Pacific	Barbers Point Channel Oahu	90	52	57.78%	0.42%	70	77.78%	0.40%
Gulf	Baton Rouge, LA Miles 226 Thru 235	327	0	0%	0%	145	44.34%	0.83%
Atlantic	Bay Ridge Channel, NY	5	0	0%	0%	0	0%	0%
Gulf	Bayou Casotte, MS	599	568	94.82%	4.59%	568	94.82%	3.25%
Gulf	Beaumont, TX	2,275	1,797	78.99%	14.54%	1,797	78.99%	10.29%
Pacific	Bellingham Bay & Harbor, WA/Whatcom Creek Waterway	46	39	84.78%	0.32%	39	84.78%	0.22%
Atlantic	Boston MA Island End River	161	34	21.12%	0.28%	34	21.12%	0.19%
Atlantic	Boston MA Town River	58	55	94.83%	0.44%	55	94.83%	0.31%
Atlantic	Boston, MA Chelsea River	358	221	61.73%	1.79%	221	61.73%	1.27%
Atlantic	Boston, MA Main Water Front	114	0	0%	0%	8	7.02%	0.05%
Atlantic	Boston, MA Mystic River	83	67	80.72%	0.54%	67	80.72%	0.38%

Appendix C-3C
Analysis of Tanker Vessel Constraints, 2020

Coast Name	Port Name/Location Name	Number of calls	Constrained Calls with Projects	Percent of Calls Constrained	Percent of Total Constrained Calls	Constrained Calls without Projects	Percent of Calls Constrained	Percent of Total Constrained Calls
Atlantic	Boston, MA Weymouth Fore River	20	17	85.00%	0.14%	17	85.00%	0.10%
Atlantic	Bridgeport, CT Main Harbor	30	30	100%	0.24%	30	100%	0.17%
Gulf	Brownsville Ship Channel, TX	88	10	11.36%	0.08%	10	11.36%	0.06%
Atlantic	Brunswick Hbr, GA	17	14	82.35%	0.11%	17	100%	0.10%
Great Lakes	Buffalo Harbor, NY	14	14	100%	0.11%	14	100%	0.08%
Atlantic	Buttermilk Channel, NY	76	31	40.79%	0.25%	31	40.79%	0.18%
Gulf	Calcasieu River and Pass Lake Charles, LA	164	118	71.95%	0.95%	118	71.95%	0.68%
Atlantic	Camden, NJ	3	0	0%	0%	3	100%	0.02%
Atlantic	Canaveral Harbor, FL	116	78	67.24%	0.63%	78	67.24%	0.45%
Pacific	Carquinez Strait, CA	381	75	19.69%	0.61%	75	19.69%	0.43%
Atlantic	Charleston Cooper River, SC	233	10	4.29%	0.08%	71	30.47%	0.41%
Atlantic	Charleston Shipyard River, SC	3	0	0%	0%	0	0%	0%
Atlantic	Chesapeake Bay Open Waters	14	0	0%	0%	0	0%	0%
Atlantic	Chester, PA	40	24	60.00%	0.19%	24	60.00%	0.14%
Atlantic	Christina River Wilmington De	116	83	71.55%	0.67%	83	71.55%	0.48%
Atlantic	Claymont, DE	2	2	100%	0.02%	2	100%	0.01%
Great Lakes	Cleveland Harbor, OH	6	6	100%	0.05%	6	100%	0.03%
Pacific	Coos Bay, OR Inside Channel To/Millington, OR	2	2	100%	0.02%	2	100%	0.01%
Gulf	Corpus Christi, TX	2,003	240	11.98%	1.94%	1,030	51.42%	5.90%
Atlantic	Davisville, RI	19	19	100%	0.15%	19	100%	0.11%
Atlantic	Delair, NJ	56	47	83.93%	0.38%	47	83.93%	0.27%

Appendix C-3C
Analysis of Tanker Vessel Constraints, 2020

Coast Name	Port Name/Location Name	Number of calls	Constrained Calls with Projects	Percent of Calls Constrained	Percent of Total Constrained Calls	Constrained Calls without Projects	Percent of Calls Constrained	Percent of Total Constrained Calls
Atlantic								
Atlantic	Delaware City, DE	120	69	57.50%	0.56%	90	75.00%	0.52%
Great Lakes	Detroit, MI	5	0	0%	0%	0	0%	0%
Atlantic	Eagle Point Westville, NJ	250	110	44.00%	0.89%	128	51.20%	0.73%
Gulf	East Pearl River, MS	2	2	100%	0.02%	2	100%	0.01%
Atlantic	East River NY Upper NY Bay To USN Shipyard	31	26	83.87%	0.21%	26	83.87%	0.15%
Atlantic	East River, NY/USN Shipyard, Excluding East Channel	16	16	100%	0.13%	16	100%	0.09%
Atlantic	Eastport Hbr, ME	2	2	100%	0.02%	2	100%	0.01%
Atlantic	Eddystone, PA	2	2	100%	0.02%	2	100%	0.01%
Pacific	El Segundo, CA	332	139	41.87%	1.12%	139	41.87%	0.80%
Atlantic	Fajardo Hbr, PR	66	54	81.82%	0.44%	54	81.82%	0.31%
Atlantic	Fall River Hbr, MA	37	10	27.03%	0.08%	10	27.03%	0.06%
Atlantic	Fernandina, FL	5	5	100%	0.04%	5	100%	0.03%
Pacific	Ferndale, WA	95	7	7.37%	0.06%	7	7.37%	0.04%
Gulf	Freeport Harbor, TX	1,344	493	36.68%	3.99%	493	36.68%	2.82%
Gulf	Galveston Channel, TX	143	54	37.76%	0.44%	68	47.55%	0.39%
Pacific	Grays Hbr & Chehalis River, WA South Aberdeen	1	1	100%	0.01%	1	100%	0.01%
Atlantic	Guanica Hbr, PR	12	12	100%	0.10%	12	100%	0.07%
Atlantic	Guayanilla Hbr, PR	405	179	44.20%	1.45%	179	44.20%	1.02%
Gulf	Gulf Outlet Miles 70-73	12	4	33.33%	0.03%	4	33.33%	0.02%
Gulf	Gulfport Hbr & Ship Is Pass, MS	14	14	100%	0.11%	14	100%	0.08%
Atlantic	Hackensack River NJ/upper End Of Newark Bay	8	0	0%	0%	0	0%	0%

Appendix C-3C
Analysis of Tanker Vessel Constraints, 2020

Coast Name	Port Name/Location Name	Number of calls	Constrained Calls with Projects	Percent of Calls Constrained	Percent of Total Constrained Calls	Constrained Calls without Projects	Percent of Calls Constrained	Percent of Total Constrained Calls
	Channel/to Koppers Co Bulkhead Kearny NJ							
Pacific	Homer, AK	6	6	100%	0.05%	6	100%	0.03%
Pacific	Honolulu Hbr, Oahu, HI	207	63	30.43%	0.51%	63	30.43%	0.36%
Gulf	Houston Ship Channel, TX	6,484	1,672	25.79%	13.52%	2,535	39.10%	14.51%
Great Lakes	Indiana Harbor Indiana East Chicago, IN	15	0	0%	0%	0	0%	0%
Atlantic	Jacksonville Harbor, FL	292	170	58.22%	1.38%	206	70.55%	1.18%
Atlantic	James River & Port of Hopewell, VA	26	11	42.31%	0.09%	11	42.31%	0.06%
Atlantic	Jobos Hbr, PR	160	154	96.25%	1.25%	154	96.25%	0.88%
Pacific	Juneau Gastineau Channel, AK	7	0	0%	0%	0	0%	0%
Pacific	Kalama, WA	40	6	15.00%	0.05%	6	15.00%	0.03%
Pacific	Ketchikan, AK (Tongass Narrows)	5	5	100%	0.04%	5	100%	0.03%
Great Lakes	Lake Calumet, IL	17	17	100%	0.14%	17	100%	0.10%
Pacific	Lake Washington Ship Canal, WA/Ballard	6	6	100%	0.05%	6	100%	0.03%
Pacific	Long Beach Harbor, CA	1,014	9	0.89%	0.07%	100	9.86%	0.57%
Pacific	Long Beach Outer Harbor, CA	56	0	0%	0%	0	0%	0%
Pacific	Longview (Mt. Coffin)	6	0	0%	0%	0	0%	0%
Pacific	Longview, WA	4	4	100%	0.03%	4	100%	0.02%
Pacific	Los Angeles Harbor, CA	631	0	0%	0%	0	0%	0%
Atlantic	Lower Delaware Bay, DE	261	252	96.55%	2.04%	252	96.55%	1.44%
Gulf	Lower Miss River Mile 108	137	0	0%	0%	12	8.76%	0.07%
Gulf	Lower Miss River Mile 116	10	0	0%	0%	2	20.00%	0.01%
Gulf	Lower Miss River Mile 118	437	16	3.66%	0.13%	66	15.10%	0.38%

Appendix C-3C
Analysis of Tanker Vessel Constraints, 2020

Coast Name	Port Name/Location Name	Number of calls	Constrained Calls with Projects	Percent of Calls Constrained	Percent of Total Constrained Calls	Constrained Calls without Projects	Percent of Calls Constrained	Percent of Total Constrained Calls
Gulf	Lower Miss River Mile 120	9	0	0%	0%	6	66.67%	0.03%
Gulf	Lower Miss River Mile 125	45	0	0%	0%	17	37.78%	0.10%
Gulf	Lower Miss River Mile 126	48	0	0%	0%	5	10.42%	0.03%
Gulf	Lower Miss River Mile 127	63	0	0%	0%	2	3.17%	0.01%
Gulf	Lower Miss River Mile 128	74	0	0%	0%	10	13.51%	0.06%
Gulf	Lower Miss River Mile 139	80	0	0%	0%	9	11.25%	0.05%
Gulf	Lower Miss River Mile 140	83	14	16.87%	0.11%	76	91.57%	0.44%
Gulf	Lower Miss River Mile 144	69	0	0%	0%	0	0%	0%
Gulf	Lower Miss River Mile 145	11	0	0%	0%	5	45.45%	0.03%
Gulf	Lower Miss River Mile 148	54	2	3.70%	0.02%	54	100%	0.31%
Gulf	Lower Miss River Mile 158	9	0	0%	0%	0	0%	0%
Gulf	Lower Miss River Mile 159	156	7	4.49%	0.06%	136	87.18%	0.78%
Gulf	Lower Miss River Mile 160	25	0	0%	0%	22	88.00%	0.13%
Gulf	Lower Miss River Mile 161	38	0	0%	0%	0	0%	0%
Gulf	Lower Miss River Mile 166	53	0	0%	0%	7	13.21%	0.04%
Gulf	Lower Miss River Mile 167	9	4	44.44%	0.03%	9	100%	0.05%
Gulf	Lower Miss River Mile 168	50	0	0%	0%	41	82.00%	0.23%
Gulf	Lower Miss River Mile 173	26	0	0%	0%	0	0%	0%
Gulf	Lower Miss River Mile 183	127	0	0%	0%	0	0%	0%
Gulf	Lower Miss River Mile 187	27	0	0%	0%	0	0%	0%
Gulf	Lower Miss River Mile 2	3	0	0%	0%	0	0%	0%
Gulf	Lower Miss River Mile 200	10	0	0%	0%	0	0%	0%
Gulf	Lower Miss River Mile 203	33	0	0%	0%	4	12.12%	0.02%
Gulf	Lower Miss River Mile 205	130	0	0%	0%	0	0%	0%
Gulf	Lower Miss River Mile 210	112	2	1.79%	0.02%	5	4.46%	0.03%
Gulf	Lower Miss River Mile 27	93	7	7.53%	0.06%	93	100%	0.53%
Gulf	Lower Miss River Mile 61	9	0	0%	0%	4	44.44%	0.02%
Gulf	Lower Miss River Mile 63	16	0	0%	0%	12	75.00%	0.07%
Gulf	Lower Miss River Mile 72	176	9	5.11%	0.07%	62	35.23%	0.35%
Gulf	Lower Miss River Mile 83	149	2	1.34%	0.02%	27	18.12%	0.15%
Gulf	Lower Miss River Mile 87	73	0	0%	0%	54	73.97%	0.31%
Atlant ic	Marcus Hook, PA	486	300	61.73%	2.43%	327	67.28%	1.87%
Gulf	Matagorda Ship Channel, TX	492	292	59.35%	2.36%	292	59.35%	1.67%
Atlant ic	Mayaguez Hbr, PR	4	0	0%	0%	0	0%	0%
Atlant ic	Miami Harbor, FL	158	71	44.94%	0.57%	141	89.24%	0.81%

Appendix C-3C
Analysis of Tanker Vessel Constraints, 2020

Coast Name	Port Name/Location Name	Number of calls	Constrained Calls with Projects	Percent of Calls Constrained	Percent of Total Constrained Calls	Constrained Calls without Projects	Percent of Calls Constrained	Percent of Total Constrained Calls
Atlantic	Miami River, FL	43	43	100%	0.35%	43	100%	0.25%
Gulf	Mobile Harbor AL	214	0	0%	0%	152	71.03%	0.87%
Atlantic	Morehead City Hbr, NC	155	0	0%	0%	0	0%	0%
Atlantic	Morrisville, PA	13	13	100%	0.11%	13	100%	0.07%
Great Lakes	Muskegon Harbor, MI	9	9	100%	0.07%	9	100%	0.05%
Atlantic	New Bedford & Fairhaven Hbr, MA	8	8	100%	0.06%	8	100%	0.05%
Atlantic	New Haven, CT Main Harbor	67	67	100%	0.54%	67	100%	0.38%
Atlantic	New London Harbor, CT	3	0	0%	0%	0	0%	0%
Gulf	New Orleans, LA, Miles 88 Thru 106	702	12	1.71%	0.10%	202	28.77%	1.16%
Atlantic	New York & New Jersey Channels Main Ship Chan To Smith Creek NJ	58	44	75.86%	0.36%	44	75.86%	0.25%
Atlantic	New York & New Jersey Channels Piles Creek/to Kill Van Kull Exc Channels South/of Shooters Island	281	29	10.32%	0.23%	255	90.75%	1.46%
Atlantic	New York & New Jersey Channels Smith Creek To Piles Creek NJ	176	140	79.55%	1.13%	140	79.55%	0.80%
Atlantic	New York & New Jersey Channels/Housman Avenue To St George S I	297	0	0%	0%	97	32.66%	0.56%
Atlantic	Newark Bay NJ Offshore Connecting Channel/between Port Newark And Port Elizabeth/branch Channels	34	0	0%	0%	4	11.76%	0.02%
Atlantic	Newark Bay NJ Port Newark Branch Channel	247	0	0%	0%	42	17.00%	0.24%
Atlantic	Newark Bay NJ-port Elizabeth Branch Channel	98	3	3.06%	0.02%	49	50.00%	0.28%
Atlantic	Newport News , VA	68	5	7.35%	0.04%	5	7.35%	0.03%

Appendix C-3C
Analysis of Tanker Vessel Constraints, 2020

Coast Name	Port Name/Location Name	Number of calls	Constrained Calls with Projects	Percent of Calls Constrained	Percent of Total Constrained Calls	Constrained Calls without Projects	Percent of Calls Constrained	Percent of Total Constrained Calls
ic								
Great Lakes	Niagara River New York Or Harriet	8	0	0%	0%	0	0%	0%
Pacific	Nikishki, AK	123	64	52.03%	0.52%	64	52.03%	0.37%
Atlantic	Norfolk Harbor, VA Portsmouth VA	224	0	0%	0%	4	1.79%	0.02%
Atlantic	Norfolk Hbr, VA Eastern Br Eliz R	24	0	0%	0%	0	0%	0%
Atlantic	Norfolk Hbr, VA Southern Br Eliz R	48	0	0%	0%	0	0%	0%
Atlantic	Northeast, Cape Fear River NC	91	20	21.98%	0.16%	20	21.98%	0.11%
Atlantic	Northville L.I., NY	21	4	19.05%	0.03%	4	19.05%	0.02%
Pacific	Oakland Harbor, CA Codes 000-380, 400-835, & 840-999	67	4	5.97%	0.03%	31	46.27%	0.18%
Pacific	Oregon Slough Oregon And Bay, OR	16	11	68.75%	0.09%	11	68.75%	0.06%
Great Lakes	Oswego Harbor, NY	34	0	0%	0%	0	0%	0%
Atlantic	Palm Beach Harbor, FL	144	137	95.14%	1.11%	137	95.14%	0.78%
Gulf	Panama City Harbor, FL	35	8	22.86%	0.06%	8	22.86%	0.05%
Atlantic	Paulsboro, NJ	331	240	72.51%	1.94%	244	73.72%	1.40%
Atlantic	Penobscot River, ME	39	36	92.31%	0.29%	36	92.31%	0.21%
Gulf	Pensacola Hbr, FL	3	3	100%	0.02%	3	100%	0.02%
Atlantic	Philadelphia, PA On Delaware River/Allegheny Ave To Poquessing Creek	153	6	3.92%	0.05%	6	3.92%	0.03%
Atlantic	Piscataqua River, NH	286	246	86.01%	1.99%	246	86.01%	1.41%
Pacific	Pittsburg, CA	3	0	0%	0%	0	0%	0%
Atlantic	Plymouth Harbor, MA	3	3	100%	0.02%	3	100%	0.02%
Atlantic	Ponce Harbor, PR	111	51	45.95%	0.41%	51	45.95%	0.29%

Appendix C-3C
Analysis of Tanker Vessel Constraints, 2020

Coast Name	Port Name/Location Name	Number of calls	Constrained Calls with Projects	Percent of Calls Constrained	Percent of Total Constrained Calls	Constrained Calls without Projects	Percent of Calls Constrained	Percent of Total Constrained Calls
ic								
Pacifi c	Port Angeles Harbor, WA	14	12	85.71%	0.10%	12	85.71%	0.07%
Gulf	Port Arthur, TX	206	118	57.28%	0.95%	118	57.28%	0.68%
Atlant ic	Port Everglades Hbr, FL	461	331	71.80%	2.68%	331	71.80%	1.90%
Pacifi c	Port Hueneme, CA	31	28	90.32%	0.23%	28	90.32%	0.16%
Gulf	Port Manatee, FL	29	3	10.34%	0.02%	3	10.34%	0.02%
Atlant ic	Portland Harbor, Fore River, ME	35	35	100%	0.28%	35	100%	0.20%
Atlant ic	Portland Harbor, ME	667	659	98.80%	5.33%	659	98.80%	3.77%
Pacifi c	Portland, OR	209	70	33.49%	0.57%	70	33.49%	0.40%
Atlant ic	Portsmouth Hbr, NH	19	15	78.95%	0.12%	15	78.95%	0.09%
Atlant ic	Potomac River Below Washington DC/mouth To Giesboro Point	12	12	100%	0.10%	12	100%	0.07%
Atlant ic	Providence River and Harbor, RI	249	73	29.32%	0.59%	73	29.32%	0.42%
Atlant ic	Rensselaer, NY	8	8	100%	0.06%	8	100%	0.05%
Pacifi c	Revillagigedo Channel	11	3	27.27%	0.02%	3	27.27%	0.02%
Pacifi c	Richmond Harbor, CA Outer Harbor, Codes 000-699	588	178	30.27%	1.44%	217	36.90%	1.24%
Great Lakes	Saginaw, MI	3	3	100%	0.02%	3	100%	0.02%
Atlant ic	Salem Harbor, MA	2	2	100%	0.02%	2	100%	0.01%
Atlant ic	Salem River, NJ	2	2	100%	0.02%	2	100%	0.01%
Pacifi c	San Diego Harbor, CA	12	6	50.00%	0.05%	6	50.00%	0.03%
Pacifi c	San Francisco Hbr, CA	239	109	45.61%	0.88%	109	45.61%	0.62%

Appendix C-3C
Analysis of Tanker Vessel Constraints, 2020

Coast Name	Port Name/Location Name	Number of calls	Constrained Calls with Projects	Percent of Calls Constrained	Percent of Total Constrained Calls	Constrained Calls without Projects	Percent of Calls Constrained	Percent of Total Constrained Calls
c								
Atlantic	San Juan Hbr, PR	296	128	43.24%	1.04%	128	43.24%	0.73%
Pacific	San Pablo Bay & Mare I Strait, CA	120	22	18.33%	0.18%	22	18.33%	0.13%
Atlantic	Savannah Harbor, GA	784	86	10.97%	0.70%	265	33.80%	1.52%
Atlantic	Schuykill River Phila, PA Project	96	64	66.67%	0.52%	64	66.67%	0.37%
Atlantic	Searsport Hbr, Me	143	114	79.72%	0.92%	114	79.72%	0.65%
Pacific	Seattle Harbor, WA East Waterway	31	0	0%	0%	5	16.13%	0.03%
Pacific	Seattle Harbor, WA Elliott Bay	16	9	56.25%	0.07%	9	56.25%	0.05%
Pacific	Seattle Harbor, WA Harbor Island	138	0	0%	0%	0	0%	0%
Pacific	Seattle Harbor, WA/Richmond Beach To Edmonds	5	2	40.00%	0.02%	2	40.00%	0.01%
Pacific	Stockton, CA	92	37	40.22%	0.30%	37	40.22%	0.21%
Pacific	Suisun Bay Channel, CA	11	11	100%	0.09%	11	100%	0.06%
Great Lakes	Superior, WI	2	2	100%	0.02%	2	100%	0.01%
Pacific	Tacoma Harbor, WA	168	138	82.14%	1.12%	138	82.14%	0.79%
Gulf	Tampa Harbor, FL	722	6	0.83%	0.05%	6	0.83%	0.03%
Gulf	Texas City, TX	1,591	206	12.95%	1.67%	941	59.15%	5.39%
Atlantic	Thru 04470 Philadelphia, PA On Delaware Rv/Hog Island To Allegheny Ave	466	310	66.52%	2.51%	327	70.17%	1.87%
Gulf	Thru 66540 Giww Galveston To Corpus Christi	54	34	62.96%	0.28%	34	62.96%	0.19%
Great Lakes	Thru 77647 Port Of Chicago Il/calumet Harbor, & River Il & In-south	4	4	100%	0.03%	4	100%	0.02%

Appendix C-3C
Analysis of Tanker Vessel Constraints, 2020

Coast Name	Port Name/Location Name	Number of calls	Constrained Calls with Projects	Percent of Calls Constrained	Percent of Total Constrained Calls	Constrained Calls without Projects	Percent of Calls Constrained	Percent of Total Constrained Calls
	Chicago							
Great Lakes	Toledo, OH	98	53	54.08%	0.43%	53	54.08%	0.30%
Pacific	Unak Bay & Island, AK/(Iliuliuk & Dutch Hbr.)	6	6	100%	0.05%	6	100%	0.03%
Atlantic	Upper Bay, NY Narrows To/Municipal Ferry Dock St Geo Si/exc Bay Ridge Red Hook & Buttermilk Channels	886	43	4.85%	0.35%	299	33.75%	1.71%
Atlantic	Upper Bay, NY/Bayonne NJ To Claremont NJ/bay Ridge Flats And Bedloes Is	108	0	0%	0%	59	54.63%	0.34%
Pacific	Valdez, AK	14	0	0%	0%	0	0%	0%
Pacific	Vancouver, WA	4	4	100%	0.03%	4	100%	0.02%
Atlantic	Wando River, SC	6	0	0%	0%	6	100%	0.03%
Atlantic	Wilmington Harbor, NC	428	58	13.55%	0.47%	211	49.30%	1.21%
Atlantic	Wilmington Harbor, Southport NC	60	0	0%	0%	17	28.33%	0.10%
Pacific	Yolo Port District, CA	19	2	10.53%	0.02%	2	10.53%	0.01%
Atlantic	York River, VA	95	95	100%	0.77%	95	100%	0.54%

Appendix C-4A
Analysis of General Cargo Vessel Constraints, 2000

Coast Name	Port Name/Location Name	Number of calls	Constrained Calls with Projects	Percent of Calls Constrained	Percent of Total Constrained Calls	Constrained Calls without Projects	Percent of Calls Constrained	Percent of Total Constrained Calls
Atlantic	Albany, NY	36	10	27.78%	0.51%	10	27.78%	0.51%
Pacific	Anacortes Harbor, WA	2	2	100%	0.10%	2	100%	0.10%
Atlantic	Arecibo Harbor, PR	2	0	0%	0%	0	0%	0%
Great Lakes	Ashtabula Harbor, OH	44	44	100%	2.24%	44	100%	2.24%
Gulf	Atchafalaya R Morgan Cty To Gulf	2	2	100%	0.10%	2	100%	0.10%
Atlantic	Baltimore Hbr and Channels, MD	1,080	0	0%	0%	0	0%	0%
Pacific	Barbers Point Channel Oahu	8	0	0%	0%	0	0%	0%
Gulf	Baton Rouge, LA Miles 226 Thru 235	18	0	0%	0%	0	0%	0%
Atlantic	Bay Ridge Channel, NY	2	2	100%	0.10%	2	100%	0.10%
Gulf	Bayou Casotte, MS	52	2	3.85%	0.10%	2	3.85%	0.10%
Gulf	Beaumont, TX	38	0	0%	0%	0	0%	0%
Gulf	Biloxi Harbor, MS	2	0	0%	0%	0	0%	0%
Atlantic	Boston MA Island End River	6	0	0%	0%	0	0%	0%
Atlantic	Boston, MA Chelsea River	4	0	0%	0%	0	0%	0%
Atlantic	Boston, MA Main Water Front	146	0	0%	0%	0	0%	0%
Atlantic	Boston, MA Mystic River	192	0	0%	0%	0	0%	0%
Atlantic	Bridgeport, CT Main Harbor	4	0	0%	0%	0	0%	0%
Gulf	Brownsville Ship Channel, TX	44	10	22.73%	0.51%	10	22.73%	0.51%
Atlantic	Brunswick Hbr, GA	526	492	93.54%	25.10%	492	93.54%	25.10%
Great Lakes	Burns Waterway Harbor, IN	12	0	0%	0%	0	0%	0%
Atlantic	Buttermilk Channel, NY	106	34	32.08%	1.73%	34	32.08%	1.73%

Appendix C-4A
Analysis of General Cargo Vessel Constraints, 2000

Coast Name	Port Name/Location Name	Number of calls	Constrained Calls with Projects	Percent of Calls Constrained	Percent of Total Constrained Calls	Constrained Calls without Projects	Percent of Calls Constrained	Percent of Total Constrained Calls
ic								
Gulf	Calcasieu River and Pass Lake Charles, LA	28	0	0%	0%	0	0%	0%
Great Lakes	Calcite, MI	2	0	0%	0%	0	0%	0%
Atlantic	Camden, NJ	96	0	0%	0%	0	0%	0%
Atlantic	Canaveral Harbor, FL	74	0	0%	0%	0	0%	0%
Pacific	Carquinez Strait, CA	30	0	0%	0%	0	0%	0%
Atlantic	Cementon, NY	2	0	0%	0%	0	0%	0%
Atlantic	Charleston Ashley River, SC	2	0	0%	0%	0	0%	0%
Atlantic	Charleston Cooper River, SC	474	32	6.75%	1.63%	32	6.75%	1.63%
Atlantic	Charleston Shipyard River, SC	2	0	0%	0%	0	0%	0%
Atlantic	Christina River Wilmington De	190	0	0%	0%	0	0%	0%
Atlantic	Claymont, DE	4	0	0%	0%	0	0%	0%
Great Lakes	Cleveland Harbor, OH	32	2	6.25%	0.10%	2	6.25%	0.10%
Atlantic	Coeymans, NY	8	0	0%	0%	0	0%	0%
Great Lakes	Conneaut Harbor, OH	32	32	100%	1.63%	32	100%	1.63%
Atlantic	Cooper River Above Charleston Hbr	4	0	0%	0%	0	0%	0%
Pacific	Coos Bay, OR Inside Channel To/Millington, OR	2	0	0%	0%	0	0%	0%
Gulf	Corpus Christi, TX	84	0	0%	0%	0	0%	0%
Atlantic	Dania Cut Off Canal, FL	312	122	39.10%	6.22%	122	39.10%	6.22%
Atlantic	Davisville, RI	24	24	100%	1.22%	24	100%	1.22%
Great Lakes	Dearborn MI See Rouge Riv/Rouge River MI	16	16	100%	0.82%	16	100%	0.82%

Appendix C-4A
Analysis of General Cargo Vessel Constraints, 2000

Coast Name	Port Name/Location Name	Number of calls	Constrained Calls with Projects	Percent of Calls Constrained	Percent of Total Constrained Calls	Constrained Calls without Projects	Percent of Calls Constrained	Percent of Total Constrained Calls
	Dearborn MI							
Atlantic	Delair, NJ	2	0	0%	0%	0	0%	0%
Great Lakes	Detroit, MI	6	0	0%	0%	0	0%	0%
Great Lakes	Duluth, MN	24	2	8.33%	0.10%	2	8.33%	0.10%
Gulf	East Pearl River, MS	2	0	0%	0%	0	0%	0%
Atlantic	East River NY Upper NY Bay To USN Shipyard	10	0	0%	0%	0	0%	0%
Atlantic	Eastport Hbr, ME	16	0	0%	0%	0	0%	0%
Great Lakes	Ecorse, MI	24	2	8.33%	0.10%	2	8.33%	0.10%
Atlantic	Eddystone, PA	64	0	0%	0%	0	0%	0%
Pacific	El Segundo, CA	2	0	0%	0%	0	0%	0%
Pacific	Everett Harbor, WA Outer Harbor	2	0	0%	0%	0	0%	0%
Atlantic	Fall River Hbr, MA	16	0	0%	0%	0	0%	0%
Atlantic	Fernandina, FL	222	0	0%	0%	0	0%	0%
Atlantic	Fort Pierce Hbr, FL	4	4	100%	0.20%	4	100%	0.20%
Gulf	Freeport Harbor, TX	68	0	0%	0%	0	0%	0%
Gulf	Galveston Channel, TX	150	0	0%	0%	0	0%	0%
Atlantic	Gloucester, NJ	44	0	0%	0%	0	0%	0%
Pacific	Grays Harbor, & Chehalis River Wa/North Aberdeen And North Channel	4	2	50.00%	0.10%	2	50.00%	0.10%
Atlantic	Guanica Hbr, PR	2	2	100%	0.10%	2	100%	0.10%
Atlantic	Guayanilla Hbr, PR	2	0	0%	0%	0	0%	0%
Gulf	Gulf Outlet Miles 70-73	20	0	0%	0%	0	0%	0%
Gulf	Gulfport Hbr & Ship Is Pass, MS	148	0	0%	0%	0	0%	0%

Appendix C-4A
Analysis of General Cargo Vessel Constraints, 2000

Coast Name	Port Name/Location Name	Number of calls	Constrained Calls with Projects	Percent of Calls Constrained	Percent of Total Constrained Calls	Constrained Calls without Projects	Percent of Calls Constrained	Percent of Total Constrained Calls
Pacific	Honolulu Hbr, Oahu, HI	88	0	0%	0%	0	0%	0%
Gulf	Houston Ship Channel, TX	1,580	22	1.39%	1.12%	22	1.39%	1.12%
Atlantic	Hudson River Channel, NY & NJ/NY Shore W 40 To W 59 St, NY	4	0	0%	0%	0	0%	0%
Pacific	Humboldt Hbr & Bay, CA	8	0	0%	0%	0	0%	0%
Atlantic	Icw, Palm Beach Harbor, FL Miles 223 Thru 230	2	0	0%	0%	0	0%	0%
Gulf	Inner Harbor Navigation Canal, LA	20	8	40.00%	0.41%	8	40.00%	0.41%
Atlantic	Jacksonville Harbor, FL	1,148	8	0.70%	0.41%	8	0.70%	0.41%
Atlantic	James River & Port of Hopewell, VA	24	0	0%	0%	0	0%	0%
Atlantic	James River, VA	50	0	0%	0%	0	0%	0%
Atlantic	Jobos Hbr, PR	10	0	0%	0%	0	0%	0%
Pacific	Kalama, WA	4	0	0%	0%	0	0%	0%
Atlantic	Key West Hbr, FL	2	0	0%	0%	0	0%	0%
Pacific	Long Beach Harbor, CA	218	0	0%	0%	0	0%	0%
Pacific	Long Beach Outer Harbor, CA	186	0	0%	0%	0	0%	0%
Pacific	Longview, WA	18	0	0%	0%	0	0%	0%
Pacific	Los Angeles Harbor, CA	458	0	0%	0%	0	0%	0%
Gulf	Lower Miss River Mile 118	2	0	0%	0%	0	0%	0%
Gulf	Lower Miss River Mile 120	20	0	0%	0%	0	0%	0%
Gulf	Lower Miss River Mile 125	2	0	0%	0%	0	0%	0%
Gulf	Lower Miss River Mile 128	6	0	0%	0%	0	0%	0%
Gulf	Lower Miss River Mile 132	2	0	0%	0%	0	0%	0%
Gulf	Lower Miss River Mile 138	2	0	0%	0%	0	0%	0%
Gulf	Lower Miss River Mile 139	18	0	0%	0%	0	0%	0%
Gulf	Lower Miss River Mile 145	2	0	0%	0%	0	0%	0%

Appendix C-4A
Analysis of General Cargo Vessel Constraints, 2000

Coast Name	Port Name/Location Name	Number of calls	Constrained Calls with Projects	Percent of Calls Constrained	Percent of Total Constrained Calls	Constrained Calls without Projects	Percent of Calls Constrained	Percent of Total Constrained Calls
Gulf	Lower Miss River Mile 146	12	0	0%	0%	0	0%	0%
Gulf	Lower Miss River Mile 150	10	0	0%	0%	0	0%	0%
Gulf	Lower Miss River Mile 158	84	0	0%	0%	0	0%	0%
Gulf	Lower Miss River Mile 159	4	0	0%	0%	0	0%	0%
Gulf	Lower Miss River Mile 166	20	0	0%	0%	0	0%	0%
Gulf	Lower Miss River Mile 167	38	0	0%	0%	0	0%	0%
Gulf	Lower Miss River Mile 169	16	0	0%	0%	0	0%	0%
Gulf	Lower Miss River Mile 210	2	0	0%	0%	0	0%	0%
Gulf	Lower Miss River Mile 55	22	0	0%	0%	0	0%	0%
Gulf	Lower Miss River Mile 57	4	0	0%	0%	0	0%	0%
Gulf	Lower Miss River Mile 61	10	0	0%	0%	0	0%	0%
Gulf	Lower Miss River Mile 72	8	0	0%	0%	0	0%	0%
Gulf	Lower Miss River Mile 83	8	0	0%	0%	0	0%	0%
Gulf	Lower Miss River Mile 87	2	0	0%	0%	0	0%	0%
Great Lakes	Ludington Harbor, MI	2	0	0%	0%	0	0%	0%
Atlantic	Marcus Hook, PA	4	0	0%	0%	0	0%	0%
Gulf	Matagorda Ship Channel, TX	8	0	0%	0%	0	0%	0%
Atlantic	Mayaguez Hbr, PR	322	4	1.24%	0.20%	4	1.24%	0.20%
Atlantic	Miami Harbor, FL	1,952	0	0%	0%	0	0%	0%
Atlantic	Miami River, FL	848	706	83.25%	36.02%	706	83.25%	36.02%
Gulf	Michoud Canal, LA	16	0	0%	0%	0	0%	0%
Great Lakes	Milwaukee, WI	6	0	0%	0%	0	0%	0%
Gulf	Mobile Harbor AL	230	0	0%	0%	0	0%	0%
Gulf	Mobile Harbor, AL Chickasaw Creek	14	0	0%	0%	0	0%	0%
Atlantic	Morehead City Hbr, NC	62	0	0%	0%	0	0%	0%
Atlantic	Morrisville, PA	18	18	100%	0.92%	18	100%	0.92%
Atlantic	New Haven, CT Main Harbor	36	10	27.78%	0.51%	10	27.78%	0.51%
Gulf	New Orleans, LA, Miles 88 Thru 106	710	0	0%	0%	0	0%	0%

Appendix C-4A
Analysis of General Cargo Vessel Constraints, 2000

Coast Name	Port Name/Location Name	Number of calls	Constrained Calls with Projects	Percent of Calls Constrained	Percent of Total Constrained Calls	Constrained Calls without Projects	Percent of Calls Constrained	Percent of Total Constrained Calls
Atlantic	New York & New Jersey Channels Main Ship Chan To Smith Creek NJ	4	0	0%	0%	0	0%	0%
Atlantic	New York & New Jersey Channels Piles Creek/to Kill Van Kull Exc Channels South/of Shooters Island	56	32	57.14%	1.63%	32	57.14%	1.63%
Atlantic	New York & New Jersey Channels Smith Creek To Piles Creek NJ	6	2	33.33%	0.10%	2	33.33%	0.10%
Atlantic	New York & New Jersey Channels/Housman Avenue To St George S I	2	0	0%	0%	0	0%	0%
Atlantic	Newark Bay NJ Offshore Connecting Channel/between Port Newark And Port Elizabeth/branch Channels	4	0	0%	0%	0	0%	0%
Atlantic	Newark Bay NJ Port Newark Branch Channel	232	0	0%	0%	0	0%	0%
Atlantic	Newark Bay NJ-port Elizabeth Branch Channel	152	6	3.95%	0.31%	6	3.95%	0.31%
Pacific	Newport Bay Harbor, CA	34	34	100%	1.73%	34	100%	1.73%
Atlantic	Newport News , VA	128	0	0%	0%	0	0%	0%
Atlantic	Norfolk Harbor, VA Portsmouth VA	212	0	0%	0%	0	0%	0%
Atlantic	Norfolk Hbr, VA Eastern Br Eliz R	2	0	0%	0%	0	0%	0%
Atlantic	Norfolk Hbr, VA Southern Br Eliz R	18	0	0%	0%	0	0%	0%
Atlantic	Northeast, Cape Fear River NC	4	0	0%	0%	0	0%	0%
Pacific	Oakland Harbor, CA Codes 000-380, 400-835, & 840-999	56	0	0%	0%	0	0%	0%
Pacific	Oregon Slough Oregon And Bay, OR	310	2	0.65%	0.10%	2	0.65%	0.10%
Atlantic	Palm Beach Harbor, FL	1,584	0	0%	0%	0	0%	0%

Appendix C-4A
Analysis of General Cargo Vessel Constraints, 2000

Coast Name	Port Name/Location Name	Number of calls	Constrained Calls with Projects	Percent of Calls Constrained	Percent of Total Constrained Calls	Constrained Calls without Projects	Percent of Calls Constrained	Percent of Total Constrained Calls
ic								
Gulf	Panama City Harbor, FL	120	20	16.67%	1.02%	20	16.67%	1.02%
Gulf	Pascagoula Hbr, MS	44	4	9.09%	0.20%	4	9.09%	0.20%
Atlant ic	Paulsboro, NJ	4	0	0%	0%	0	0%	0%
Gulf	Pensacola Hbr, FL	10	2	20.00%	0.10%	2	20.00%	0.10%
Atlant ic	Petty Island NJ	2	0	0%	0%	0	0%	0%
Atlant ic	Philadelphia, PA On Delaware River/Allegheny Ave To Poquessing Creek	22	0	0%	0%	0	0%	0%
Atlant ic	Piscataqua River, NH	22	0	0%	0%	0	0%	0%
Pacifi c	Pittsburg, CA	2	2	100%	0.10%	2	100%	0.10%
Atlant ic	Ponce Harbor, PR	54	2	3.70%	0.10%	2	3.70%	0.10%
Gulf	Port Arthur, TX	94	0	0%	0%	0	0%	0%
Atlant ic	Port Everglades Hbr, FL	2,400	0	0%	0%	0	0%	0%
Pacifi c	Port Hueneme, CA	326	78	23.93%	3.98%	78	23.93%	3.98%
Gulf	Port Manatee, FL	62	0	0%	0%	0	0%	0%
Atlant ic	Port Royal, SC	2	0	0%	0%	0	0%	0%
Atlant ic	Portland Harbor, Fore River, ME	10	0	0%	0%	0	0%	0%
Atlant ic	Portland Harbor, ME	154	12	7.79%	0.61%	12	7.79%	0.61%
Pacifi c	Portland, OR	224	0	0%	0%	0	0%	0%
Atlant ic	Portsmouth Hbr, NH	6	0	0%	0%	0	0%	0%
Atlant ic	Providence River and Harbor, RI	8	0	0%	0%	0	0%	0%
Atlant ic	Raritan River NJ Main Channel/raritan Bay To Ostrand's Dock/Keasby NJ	2	0	0%	0%	0	0%	0%

Appendix C-4A
Analysis of General Cargo Vessel Constraints, 2000

Coast Name	Port Name/Location Name	Number of calls	Constrained Calls with Projects	Percent of Calls Constrained	Percent of Total Constrained Calls	Constrained Calls without Projects	Percent of Calls Constrained	Percent of Total Constrained Calls
Pacific	Redwood City Hbr, CA	2	0	0%	0%	0	0%	0%
Pacific	Richmond Harbor, CA Outer Harbor, Codes 000-699	14	0	0%	0%	0	0%	0%
Gulf	Sabine, Pass Harbor, TX	4	0	0%	0%	0	0%	0%
Atlantic	Salem River, NJ	14	14	100%	0.71%	14	100%	0.71%
Pacific	San Diego Harbor, CA	568	2	0.35%	0.10%	2	0.35%	0.10%
Pacific	San Francisco Hbr, CA	48	2	4.17%	0.10%	2	4.17%	0.10%
Atlantic	San Juan Hbr, PR	1,048	2	0.19%	0.10%	2	0.19%	0.10%
Pacific	San Pablo Bay & Mare I Strait, CA	2	0	0%	0%	0	0%	0%
Great Lakes	Sandusky Harbor, OH	6	6	100%	0.31%	6	100%	0.31%
Atlantic	Savannah Harbor, GA	534	32	5.99%	1.63%	32	5.99%	1.63%
Atlantic	Searsport Hbr, Me	2	0	0%	0%	0	0%	0%
Pacific	Seattle Harbor, WA Duwamish River	10	2	20.00%	0.10%	2	20.00%	0.10%
Pacific	Seattle Harbor, WA East Waterway	10	2	20.00%	0.10%	2	20.00%	0.10%
Pacific	Seattle Harbor, WA Elliott Bay	122	10	8.20%	0.51%	10	8.20%	0.51%
Pacific	Stockton, CA	16	6	37.50%	0.31%	6	37.50%	0.31%
Pacific	Suisun Bay Channel, CA	2	0	0%	0%	0	0%	0%
Great Lakes	Superior, WI	14	14	100%	0.71%	14	100%	0.71%
Pacific	Tacoma Harbor, WA	420	32	7.62%	1.63%	32	7.62%	1.63%
Gulf	Tampa Harbor, FL	282	0	0%	0%	0	0%	0%
Gulf	Texas City, TX	10	0	0%	0%	0	0%	0%
Atlantic	Thru 04470 Philadelphia, PA On Delaware Rv/Hog	360	0	0%	0%	0	0%	0%

Appendix C-4A
Analysis of General Cargo Vessel Constraints, 2000

Coast Name	Port Name/Location Name	Number of calls	Constrained Calls with Projects	Percent of Calls Constrained	Percent of Total Constrained Calls	Constrained Calls without Projects	Percent of Calls Constrained	Percent of Total Constrained Calls
	Island To Allegheny Ave							
Gulf	Thru 66540 Giww Galveston To Corpus Christi	14	0	0%	0%	0	0%	0%
Great Lakes	Thru 77647 Port Of Chicago Il/calumet Harbor, & River Il & In-south Chicago	26	0	0%	0%	0	0%	0%
Great Lakes	Toledo, OH	26	4	15.38%	0.20%	4	15.38%	0.20%
Atlantic	Upper Bay, NY Narrows To/Municipal Ferry Dock St Geo Si/exc Bay Ridge Red Hook & Buttermilk Channels	36	0	0%	0%	0	0%	0%
Atlantic	Upper Bay, NY/Bayonne NJ To Claremont NJ/bay Ridge Flats And Bedloes Is	484	0	0%	0%	0	0%	0%
Pacific	Vancouver, WA	102	0	0%	0%	0	0%	0%
Atlantic	Wando River, SC	26	0	0%	0%	0	0%	0%
Atlantic	Wilmington Harbor, NC	110	20	18.18%	1.02%	20	18.18%	1.02%
Pacific	Yolo Port District, CA	8	2	25.00%	0.10%	2	25.00%	0.10%

Appendix C-4B
Analysis of General Cargo Vessel Constraints, 2010

Coast Name	Port Name/Location Name	Number of calls	Constrained Calls with Projects	Percent of Calls Constrained	Percent of Total Constrained Calls	Constrained Calls without Projects	Percent of Calls Constrained	Percent of Total Constrained Calls
Atlantic	Albany, NY	57	17	29.82%	0.78%	17	29.82%	0.60%
Pacific	Anacortes Harbor, WA	2	2	100%	0.09%	2	100%	0.07%
Atlantic	Arecibo Harbor, PR	3	0	0%	0%	0	0%	0%
Great Lakes	Ashtabula Harbor, OH	40	40	100%	1.83%	40	100%	1.42%
Gulf	Atchafalaya R Morgan Cty To Gulf	3	3	100%	0.14%	3	100%	0.11%
Atlantic	Baltimore Hbr and Channels, MD	1,479	0	0%	0%	0	0%	0%
Pacific	Barbers Point Channel Oahu	9	0	0%	0%	0	0%	0%
Gulf	Baton Rouge, LA Miles 226 Thru 235	25	0	0%	0%	0	0%	0%
Atlantic	Bay Ridge Channel, NY	3	3	100%	0.14%	3	100%	0.11%
Gulf	Bayou Casotte, MS	68	2	2.94%	0.09%	2	2.94%	0.07%
Gulf	Beaumont, TX	57	0	0%	0%	0	0%	0%
Gulf	Biloxi Harbor, MS	4	0	0%	0%	0	0%	0%
Atlantic	Boston MA Island End River	8	0	0%	0%	0	0%	0%
Atlantic	Boston, MA Chelsea River	6	0	0%	0%	0	0%	0%
Atlantic	Boston, MA Main Water Front	207	0	0%	0%	0	0%	0%
Atlantic	Boston, MA Mystic River	283	0	0%	0%	0	0%	0%
Atlantic	Bridgeport, CT Main Harbor	5	0	0%	0%	0	0%	0%
Gulf	Brownsville Ship Channel, TX	62	13	20.97%	0.60%	13	20.97%	0.46%
Atlantic	Brunswick Hbr, GA	726	251	34.57%	11.51%	687	94.63%	24.37%
Great Lakes	Burns Waterway Harbor, IN	15	0	0%	0%	0	0%	0%
Atlantic	Buttermilk Channel, NY	149	55	36.91%	2.52%	55	36.91%	1.95%

Appendix C-4B
Analysis of General Cargo Vessel Constraints, 2010

Coast Name	Port Name/Location Name	Number of calls	Constrained Calls with Projects	Percent of Calls Constrained	Percent of Total Constrained Calls	Constrained Calls without Projects	Percent of Calls Constrained	Percent of Total Constrained Calls
ic								
Gulf	Calcasieu River and Pass Lake Charles, LA	35	0	0%	0%	0	0%	0%
Great Lakes	Calcite, MI	4	0	0%	0%	0	0%	0%
Atlantic	Camden, NJ	139	0	0%	0%	0	0%	0%
Atlantic	Canaveral Harbor, FL	109	0	0%	0%	0	0%	0%
Pacific	Carquinez Strait, CA	44	0	0%	0%	0	0%	0%
Atlantic	Cementon, NY	2	0	0%	0%	0	0%	0%
Atlantic	Charleston Ashley River, SC	2	0	0%	0%	0	0%	0%
Atlantic	Charleston Cooper River, SC	676	0	0%	0%	38	5.62%	1.35%
Atlantic	Charleston Shipyard River, SC	3	0	0%	0%	0	0%	0%
Atlantic	Christina River Wilmington De	280	0	0%	0%	0	0%	0%
Atlantic	Claymont, DE	5	0	0%	0%	0	0%	0%
Great Lakes	Cleveland Harbor, OH	36	2	5.56%	0.09%	2	5.56%	0.07%
Atlantic	Coeymans, NY	7	0	0%	0%	0	0%	0%
Great Lakes	Conneaut Harbor, OH	29	29	100%	1.33%	29	100%	1.03%
Atlantic	Cooper River Above Charleston Hbr	5	0	0%	0%	0	0%	0%
Pacific	Coos Bay, OR Inside Channel To/Millington, OR	2	0	0%	0%	0	0%	0%
Gulf	Corpus Christi, TX	133	0	0%	0%	0	0%	0%
Atlantic	Dania Cut Off Canal, FL	383	146	38.12%	6.69%	146	38.12%	5.18%
Atlantic	Davisville, RI	30	30	100%	1.38%	30	100%	1.06%
Great Lakes	Dearborn MI See Rouge Riv/Rouge River MI	25	25	100%	1.15%	25	100%	0.89%

Appendix C-4B
Analysis of General Cargo Vessel Constraints, 2010

Coast Name	Port Name/Location Name	Number of calls	Constrained Calls with Projects	Percent of Calls Constrained	Percent of Total Constrained Calls	Constrained Calls without Projects	Percent of Calls Constrained	Percent of Total Constrained Calls
	Dearborn MI							
Atlantic	Delair, NJ	3	0	0%	0%	0	0%	0%
Great Lakes	Detroit, MI	9	0	0%	0%	0	0%	0%
Great Lakes	Duluth, MN	33	3	9.09%	0.14%	3	9.09%	0.11%
Gulf	East Pearl River, MS	2	0	0%	0%	0	0%	0%
Atlantic	East River NY Upper NY Bay To USN Shipyard	14	0	0%	0%	0	0%	0%
Atlantic	Eastport Hbr, ME	17	0	0%	0%	0	0%	0%
Great Lakes	Ecorse, MI	32	3	9.38%	0.14%	3	9.38%	0.11%
Atlantic	Eddystone, PA	82	0	0%	0%	0	0%	0%
Pacific	El Segundo, CA	2	0	0%	0%	0	0%	0%
Pacific	Everett Harbor, WA Outer Harbor	3	0	0%	0%	0	0%	0%
Atlantic	Fall River Hbr, MA	19	0	0%	0%	0	0%	0%
Atlantic	Fernandina, FL	291	0	0%	0%	0	0%	0%
Atlantic	Fort Pierce Hbr, FL	6	6	100%	0.28%	6	100%	0.21%
Gulf	Freeport Harbor, TX	77	0	0%	0%	0	0%	0%
Gulf	Galveston Channel, TX	218	0	0%	0%	0	0%	0%
Atlantic	Gloucester, NJ	67	0	0%	0%	0	0%	0%
Pacific	Grays Harbor, & Chehalis River Wa/North Aberdeen And North Channel	6	3	50.00%	0.14%	3	50.00%	0.11%
Atlantic	Guanica Hbr, PR	2	2	100%	0.09%	2	100%	0.07%
Atlantic	Guayanilla Hbr, PR	2	0	0%	0%	0	0%	0%
Gulf	Gulf Outlet Miles 70-73	27	0	0%	0%	0	0%	0%
Gulf	Gulfport Hbr & Ship Is Pass, MS	258	0	0%	0%	0	0%	0%

Appendix C-4B
Analysis of General Cargo Vessel Constraints, 2010

Coast Name	Port Name/Location Name	Number of calls	Constrained Calls with Projects	Percent of Calls Constrained	Percent of Total Constrained Calls	Constrained Calls without Projects	Percent of Calls Constrained	Percent of Total Constrained Calls
Pacific	Honolulu Hbr, Oahu, HI	117	0	0%	0%	0	0%	0%
Gulf	Houston Ship Channel, TX	2,062	0	0%	0%	33	1.60%	1.17%
Atlantic	Hudson River Channel, NY & NJ/NY Shore W 40 To W 59 St, NY	6	0	0%	0%	0	0%	0%
Pacific	Humboldt Hbr & Bay, CA	9	0	0%	0%	0	0%	0%
Atlantic	Icw, Palm Beach Harbor, FL Miles 223 Thru 230	2	0	0%	0%	0	0%	0%
Gulf	Inner Harbor Navigation Canal, LA	24	10	41.67%	0.46%	10	41.67%	0.35%
Atlantic	Jacksonville Harbor, FL	1,478	12	0.81%	0.55%	12	0.81%	0.43%
Atlantic	James River & Port of Hopewell, VA	23	0	0%	0%	0	0%	0%
Atlantic	James River, VA	68	0	0%	0%	0	0%	0%
Atlantic	Jobos Hbr, PR	14	0	0%	0%	0	0%	0%
Pacific	Kalama, WA	5	0	0%	0%	0	0%	0%
Atlantic	Key West Hbr, FL	3	0	0%	0%	0	0%	0%
Pacific	Long Beach Harbor, CA	278	0	0%	0%	0	0%	0%
Pacific	Long Beach Outer Harbor, CA	278	0	0%	0%	0	0%	0%
Pacific	Longview, WA	24	0	0%	0%	0	0%	0%
Pacific	Los Angeles Harbor, CA	609	0	0%	0%	0	0%	0%
Gulf	Lower Miss River Mile 118	2	0	0%	0%	0	0%	0%
Gulf	Lower Miss River Mile 120	25	0	0%	0%	0	0%	0%
Gulf	Lower Miss River Mile 125	2	0	0%	0%	0	0%	0%
Gulf	Lower Miss River Mile 128	7	0	0%	0%	0	0%	0%
Gulf	Lower Miss River Mile 132	2	0	0%	0%	0	0%	0%
Gulf	Lower Miss River Mile 138	2	0	0%	0%	0	0%	0%
Gulf	Lower Miss River Mile 139	20	0	0%	0%	0	0%	0%
Gulf	Lower Miss River Mile 145	3	0	0%	0%	0	0%	0%

Appendix C-4B
Analysis of General Cargo Vessel Constraints, 2010

Coast Name	Port Name/Location Name	Number of calls	Constrained Calls with Projects	Percent of Calls Constrained	Percent of Total Constrained Calls	Constrained Calls without Projects	Percent of Calls Constrained	Percent of Total Constrained Calls
Gulf	Lower Miss River Mile 146	11	0	0%	0%	0	0%	0%
Gulf	Lower Miss River Mile 150	12	0	0%	0%	0	0%	0%
Gulf	Lower Miss River Mile 158	100	0	0%	0%	0	0%	0%
Gulf	Lower Miss River Mile 159	5	0	0%	0%	0	0%	0%
Gulf	Lower Miss River Mile 166	23	0	0%	0%	0	0%	0%
Gulf	Lower Miss River Mile 167	39	0	0%	0%	0	0%	0%
Gulf	Lower Miss River Mile 169	19	0	0%	0%	0	0%	0%
Gulf	Lower Miss River Mile 210	4	0	0%	0%	0	0%	0%
Gulf	Lower Miss River Mile 55	21	0	0%	0%	0	0%	0%
Gulf	Lower Miss River Mile 57	4	0	0%	0%	0	0%	0%
Gulf	Lower Miss River Mile 61	12	0	0%	0%	0	0%	0%
Gulf	Lower Miss River Mile 72	9	0	0%	0%	0	0%	0%
Gulf	Lower Miss River Mile 83	9	0	0%	0%	0	0%	0%
Gulf	Lower Miss River Mile 87	2	0	0%	0%	0	0%	0%
Great Lakes	Ludington Harbor, MI	2	0	0%	0%	0	0%	0%
Atlantic	Marcus Hook, PA	5	0	0%	0%	0	0%	0%
Gulf	Matagorda Ship Channel, TX	10	0	0%	0%	0	0%	0%
Atlantic	Mayaguez Hbr, PR	522	5	0.96%	0.23%	5	0.96%	0.18%
Atlantic	Miami Harbor, FL	3,042	0	0%	0%	0	0%	0%
Atlantic	Miami River, FL	1,325	1,154	87.09%	52.91%	1,154	87.09%	40.94%
Gulf	Michoud Canal, LA	18	0	0%	0%	0	0%	0%
Great Lakes	Milwaukee, WI	7	0	0%	0%	0	0%	0%
Gulf	Mobile Harbor AL	287	0	0%	0%	0	0%	0%
Gulf	Mobile Harbor, AL Chickasaw Creek	15	0	0%	0%	0	0%	0%
Atlantic	Morehead City Hbr, NC	87	0	0%	0%	0	0%	0%
Atlantic	Morrisville, PA	20	20	100%	0.92%	20	100%	0.71%
Atlantic	New Haven, CT Main Harbor	49	14	28.57%	0.64%	14	28.57%	0.50%
Gulf	New Orleans, LA, Miles 88 Thru 106	935	0	0%	0%	0	0%	0%

Appendix C-4B
Analysis of General Cargo Vessel Constraints, 2010

Coast Name	Port Name/Location Name	Number of calls	Constrained Calls with Projects	Percent of Calls Constrained	Percent of Total Constrained Calls	Constrained Calls without Projects	Percent of Calls Constrained	Percent of Total Constrained Calls
Atlantic	New York & New Jersey Channels Main Ship Chan To Smith Creek NJ	3	0	0%	0%	0	0%	0%
Atlantic	New York & New Jersey Channels Piles Creek/to Kill Van Kull Exc Channels South/of Shooters Island	78	3	3.85%	0.14%	45	57.69%	1.60%
Atlantic	New York & New Jersey Channels Smith Creek To Piles Creek NJ	8	3	37.50%	0.14%	3	37.50%	0.11%
Atlantic	New York & New Jersey Channels/Housman Avenue To St George S I	3	0	0%	0%	0	0%	0%
Atlantic	Newark Bay NJ Offshore Connecting Channel/between Port Newark And Port Elizabeth/branch Channels	5	0	0%	0%	0	0%	0%
Atlantic	Newark Bay NJ Port Newark Branch Channel	311	0	0%	0%	0	0%	0%
Atlantic	Newark Bay NJ-port Elizabeth Branch Channel	205	0	0%	0%	9	4.39%	0.32%
Pacific	Newport Bay Harbor, CA	43	43	100%	1.97%	43	100%	1.53%
Atlantic	Newport News , VA	183	0	0%	0%	0	0%	0%
Atlantic	Norfolk Harbor, VA Portsmouth VA	288	0	0%	0%	0	0%	0%
Atlantic	Norfolk Hbr, VA Eastern Br Eliz R	3	0	0%	0%	0	0%	0%
Atlantic	Norfolk Hbr, VA Southern Br Eliz R	20	0	0%	0%	0	0%	0%
Atlantic	Northeast, Cape Fear River NC	5	0	0%	0%	0	0%	0%
Pacific	Oakland Harbor, CA Codes 000-380, 400-835, & 840-999	88	0	0%	0%	0	0%	0%
Pacific	Oregon Slough Oregon And Bay, OR	401	3	0.75%	0.14%	3	0.75%	0.11%
Atlantic	Palm Beach Harbor, FL	2,133	0	0%	0%	0	0%	0%

Appendix C-4B
Analysis of General Cargo Vessel Constraints, 2010

Coast Name	Port Name/Location Name	Number of calls	Constrained Calls with Projects	Percent of Calls Constrained	Percent of Total Constrained Calls	Constrained Calls without Projects	Percent of Calls Constrained	Percent of Total Constrained Calls
ic								
Gulf	Panama City Harbor, FL	138	25	18.12%	1.15%	25	18.12%	0.89%
Gulf	Pascagoula Hbr, MS	50	2	4.00%	0.09%	5	10.00%	0.18%
Atlant ic	Paulsboro, NJ	4	0	0%	0%	0	0%	0%
Gulf	Pensacola Hbr, FL	14	4	28.57%	0.18%	4	28.57%	0.14%
Atlant ic	Petty Island NJ	2	0	0%	0%	0	0%	0%
Atlant ic	Philadelphia, PA On Delaware River/Allegheny Ave To Poquessing Creek	31	0	0%	0%	0	0%	0%
Atlant ic	Piscataqua River, NH	37	0	0%	0%	0	0%	0%
Pacifi c	Pittsburg, CA	2	2	100%	0.09%	2	100%	0.07%
Atlant ic	Ponce Harbor, PR	75	3	4.00%	0.14%	3	4.00%	0.11%
Gulf	Port Arthur, TX	118	0	0%	0%	0	0%	0%
Atlant ic	Port Everglades Hbr, FL	3,452	0	0%	0%	0	0%	0%
Pacifi c	Port Hueneme, CA	456	115	25.22%	5.27%	115	25.22%	4.08%
Gulf	Port Manatee, FL	84	0	0%	0%	0	0%	0%
Atlant ic	Port Royal, SC	2	0	0%	0%	0	0%	0%
Atlant ic	Portland Harbor, Fore River, ME	13	0	0%	0%	0	0%	0%
Atlant ic	Portland Harbor, ME	223	15	6.73%	0.69%	15	6.73%	0.53%
Pacifi c	Portland, OR	287	0	0%	0%	0	0%	0%
Atlant ic	Portsmouth Hbr, NH	6	0	0%	0%	0	0%	0%
Atlant ic	Providence River and Harbor, RI	11	0	0%	0%	0	0%	0%
Atlant ic	Raritan River NJ Main Channel/raritan Bay To Ostrand's Dock/Keasby NJ	2	0	0%	0%	0	0%	0%

Appendix C-4B
Analysis of General Cargo Vessel Constraints, 2010

Coast Name	Port Name/Location Name	Number of calls	Constrained Calls with Projects	Percent of Calls Constrained	Percent of Total Constrained Calls	Constrained Calls without Projects	Percent of Calls Constrained	Percent of Total Constrained Calls
Pacific	Redwood City Hbr, CA	2	0	0%	0%	0	0%	0%
Pacific	Richmond Harbor, CA Outer Harbor, Codes 000-699	17	0	0%	0%	0	0%	0%
Gulf	Sabine, Pass Harbor, TX	5	0	0%	0%	0	0%	0%
Atlantic	Salem River, NJ	18	18	100%	0.83%	18	100%	0.64%
Pacific	San Diego Harbor, CA	771	3	0.39%	0.14%	3	0.39%	0.11%
Pacific	San Francisco Hbr, CA	63	2	3.17%	0.09%	2	3.17%	0.07%
Atlantic	San Juan Hbr, PR	1,444	4	0.28%	0.18%	4	0.28%	0.14%
Pacific	San Pablo Bay & Mare I Strait, CA	2	0	0%	0%	0	0%	0%
Great Lakes	Sandusky Harbor, OH	5	5	100%	0.23%	5	100%	0.18%
Atlantic	Savannah Harbor, GA	747	0	0%	0%	42	5.62%	1.49%
Atlantic	Searsport Hbr, Me	3	0	0%	0%	0	0%	0%
Pacific	Seattle Harbor, WA Duwamish River	12	3	25.00%	0.14%	3	25.00%	0.11%
Pacific	Seattle Harbor, WA East Waterway	14	0	0%	0%	3	21.43%	0.11%
Pacific	Seattle Harbor, WA Elliott Bay	155	13	8.39%	0.60%	13	8.39%	0.46%
Pacific	Stockton, CA	26	11	42.31%	0.50%	11	42.31%	0.39%
Pacific	Suisun Bay Channel, CA	2	0	0%	0%	0	0%	0%
Great Lakes	Superior, WI	15	15	100%	0.69%	15	100%	0.53%
Pacific	Tacoma Harbor, WA	566	10	1.77%	0.46%	42	7.42%	1.49%
Atlantic	Tampa Harbor, FL	4	0	0%	0%	0	0%	0%
Gulf	Tampa Harbor, FL	364	0	0%	0%	0	0%	0%
Gulf	Texas City, TX	11	0	0%	0%	0	0%	0%

Appendix C-4B
Analysis of General Cargo Vessel Constraints, 2010

Coast Name	Port Name/Location Name	Number of calls	Constrained Calls with Projects	Percent of Calls Constrained	Percent of Total Constrained Calls	Constrained Calls without Projects	Percent of Calls Constrained	Percent of Total Constrained Calls
Atlantic	Thru 04470 Philadelphia, PA On Delaware Rv/Hog Island To Allegheny Ave	492	0	0%	0%	0	0%	0%
Gulf	Thru 66540 Giww Galveston To Corpus Christi	20	0	0%	0%	0	0%	0%
Great Lakes	Thru 77647 Port Of Chicago Il/calumet Harbor, & River Il & In-south Chicago	31	0	0%	0%	0	0%	0%
Great Lakes	Toledo, OH	32	4	12.50%	0.18%	4	12.50%	0.14%
Atlantic	Upper Bay, NY Narrows To/Municipal Ferry Dock St Geo Si/exc Bay Ridge Red Hook & Buttermilk Channels	47	0	0%	0%	0	0%	0%
Atlantic	Upper Bay, NY/Bayonne NJ To Claremont NJ/bay Ridge Flats And Bedloes Is	674	0	0%	0%	0	0%	0%
Pacific	Vancouver, WA	132	0	0%	0%	0	0%	0%
Atlantic	Wando River, SC	36	0	0%	0%	0	0%	0%
Atlantic	Wilmington Harbor, NC	135	23	17.04%	1.05%	23	17.04%	0.82%
Pacific	Yolo Port District, CA	9	2	22.22%	0.09%	2	22.22%	0.07%

Appendix C-4C
Analysis of General Cargo Vessel Constraints, 2020

Coast Name	Port Name/Location Name	Number of calls	Constrained Calls with Projects	Percent of Calls Constrained	Percent of Total Constrained Calls	Constrained Calls without Projects	Percent of Calls Constrained	Percent of Total Constrained Calls
Atlantic	Albany, NY	93	28	30.11%	0.81%	28	30.11%	0.64%
Pacific	Anacortes Harbor, WA	2	2	100%	0.06%	2	100%	0.05%
Atlantic	Arecibo Harbor, PR	5	0	0%	0%	0	0%	0%
Great Lakes	Ashtabula Harbor, OH	36	36	100%	1.04%	36	100%	0.83%
Gulf	Atchafalaya R Morgan Cty To Gulf	3	3	100%	0.09%	3	100%	0.07%
Atlantic	Baltimore Hbr and Channels, MD	2,006	0	0%	0%	0	0%	0%
Pacific	Barbers Point Channel Oahu	10	0	0%	0%	0	0%	0%
Gulf	Baton Rouge, LA Miles 226 Thru 235	34	0	0%	0%	0	0%	0%
Atlantic	Bay Ridge Channel, NY	5	5	100%	0.14%	5	100%	0.11%
Gulf	Bayou Casotte, MS	90	2	2.22%	0.06%	2	2.22%	0.05%
Gulf	Beaumont, TX	86	0	0%	0%	0	0%	0%
Gulf	Biloxi Harbor, MS	7	0	0%	0%	0	0%	0%
Atlantic	Boston MA Island End River	12	0	0%	0%	0	0%	0%
Atlantic	Boston, MA Chelsea River	8	0	0%	0%	0	0%	0%
Atlantic	Boston, MA Main Water Front	324	0	0%	0%	0	0%	0%
Atlantic	Boston, MA Mystic River	415	0	0%	0%	0	0%	0%
Atlantic	Bridgeport, CT Main Harbor	5	0	0%	0%	0	0%	0%
Gulf	Brownsville Ship Channel, TX	91	17	18.68%	0.49%	17	18.68%	0.39%
Atlantic	Brunswick Hbr, GA	989	346	34.98%	10.01%	943	95.35%	21.65%
Great Lakes	Burns Waterway Harbor, IN	20	0	0%	0%	0	0%	0%
Atlantic	Buttermilk Channel, NY	221	92	41.63%	2.66%	92	41.63%	2.11%

Appendix C-4C
Analysis of General Cargo Vessel Constraints, 2020

Coast Name	Port Name/Location Name	Number of calls	Constrained Calls with Projects	Percent of Calls Constrained	Percent of Total Constrained Calls	Constrained Calls without Projects	Percent of Calls Constrained	Percent of Total Constrained Calls
ic								
Gulf	Calcasieu River and Pass Lake Charles, LA	42	0	0%	0%	0	0%	0%
Great Lakes	Calcite, MI	9	0	0%	0%	0	0%	0%
Atlantic	Camden, NJ	202	0	0%	0%	0	0%	0%
Atlantic	Canaveral Harbor, FL	159	0	0%	0%	0	0%	0%
Pacific	Carquinez Strait, CA	63	0	0%	0%	0	0%	0%
Atlantic	Cementon, NY	3	0	0%	0%	0	0%	0%
Atlantic	Charleston Ashley River, SC	3	0	0%	0%	0	0%	0%
Atlantic	Charleston Cooper River, SC	966	0	0%	0%	50	5.18%	1.15%
Atlantic	Charleston Shipyard River, SC	5	0	0%	0%	0	0%	0%
Atlantic	Christina River Wilmington De	410	0	0%	0%	0	0%	0%
Atlantic	Claymont, DE	5	0	0%	0%	0	0%	0%
Great Lakes	Cleveland Harbor, OH	41	2	4.88%	0.06%	2	4.88%	0.05%
Atlantic	Coeymans, NY	7	0	0%	0%	0	0%	0%
Great Lakes	Conneaut Harbor, OH	26	26	100%	0.75%	26	100%	0.60%
Atlantic	Cooper River Above Charleston Hbr	5	0	0%	0%	0	0%	0%
Pacific	Coos Bay, OR Inside Channel To/Millington, OR	2	0	0%	0%	0	0%	0%
Gulf	Corpus Christi, TX	212	0	0%	0%	0	0%	0%
Atlantic	Dania Cut Off Canal, FL	482	180	37.34%	5.21%	180	37.34%	4.13%
Atlantic	Davisville, RI	36	36	100%	1.04%	36	100%	0.83%
Great Lakes	Dearborn MI See Rouge Riv/Rouge River MI	38	38	100%	1.10%	38	100%	0.87%

Appendix C-4C
Analysis of General Cargo Vessel Constraints, 2020

Coast Name	Port Name/Location Name	Number of calls	Constrained Calls with Projects	Percent of Calls Constrained	Percent of Total Constrained Calls	Constrained Calls without Projects	Percent of Calls Constrained	Percent of Total Constrained Calls
	Dearborn MI							
Atlantic	Delair, NJ	3	0	0%	0%	0	0%	0%
Great Lakes	Detroit, MI	13	0	0%	0%	0	0%	0%
Great Lakes	Duluth, MN	43	3	6.98%	0.09%	3	6.98%	0.07%
Gulf	East Pearl River, MS	2	0	0%	0%	0	0%	0%
Atlantic	East River NY Upper NY Bay To USN Shipyard	20	0	0%	0%	0	0%	0%
Atlantic	Eastport Hbr, ME	19	0	0%	0%	0	0%	0%
Great Lakes	Ecorse, MI	45	4	8.89%	0.12%	4	8.89%	0.09%
Atlantic	Eddystone, PA	107	0	0%	0%	0	0%	0%
Pacific	El Segundo, CA	2	0	0%	0%	0	0%	0%
Pacific	Everett Harbor, WA Outer Harbor	5	0	0%	0%	0	0%	0%
Atlantic	Fall River Hbr, MA	21	0	0%	0%	0	0%	0%
Atlantic	Fernandina, FL	472	0	0%	0%	0	0%	0%
Atlantic	Fort Pierce Hbr, FL	10	10	100%	0.29%	10	100%	0.23%
Gulf	Freeport Harbor, TX	84	0	0%	0%	0	0%	0%
Gulf	Galveston Channel, TX	334	0	0%	0%	0	0%	0%
Atlantic	Gloucester, NJ	101	0	0%	0%	0	0%	0%
Pacific	Grays Harbor, & Chehalis River Wa/North Aberdeen And North Channel	10	5	50.00%	0.14%	5	50.00%	0.11%
Atlantic	Guanica Hbr, PR	2	2	100%	0.06%	2	100%	0.05%
Atlantic	Guayanilla Hbr, PR	2	0	0%	0%	0	0%	0%
Gulf	Gulf Outlet Miles 70-73	36	0	0%	0%	0	0%	0%
Gulf	Gulfport Hbr & Ship Is Pass, MS	460	0	0%	0%	0	0%	0%

Appendix C-4C
Analysis of General Cargo Vessel Constraints, 2020

Coast Name	Port Name/Location Name	Number of calls	Constrained Calls with Projects	Percent of Calls Constrained	Percent of Total Constrained Calls	Constrained Calls without Projects	Percent of Calls Constrained	Percent of Total Constrained Calls
Pacific	Honolulu Hbr, Oahu, HI	153	0	0%	0%	0	0%	0%
Gulf	Houston Ship Channel, TX	2,948	0	0%	0%	50	1.70%	1.15%
Atlantic	Hudson River Channel, NY & NJ/NY Shore W 40 To W 59 St, NY	8	0	0%	0%	0	0%	0%
Pacific	Humboldt Hbr & Bay, CA	11	0	0%	0%	0	0%	0%
Atlantic	Icw, Palm Beach Harbor, FL Miles 223 Thru 230	3	0	0%	0%	0	0%	0%
Gulf	Inner Harbor Navigation Canal, LA	32	12	37.50%	0.35%	12	37.50%	0.28%
Atlantic	Jacksonville Harbor, FL	1,912	17	0.89%	0.49%	17	0.89%	0.39%
Atlantic	James River & Port of Hopewell, VA	23	0	0%	0%	0	0%	0%
Atlantic	James River, VA	91	0	0%	0%	0	0%	0%
Atlantic	Jobos Hbr, PR	22	0	0%	0%	0	0%	0%
Pacific	Kalama, WA	6	0	0%	0%	0	0%	0%
Atlantic	Key West Hbr, FL	6	0	0%	0%	0	0%	0%
Pacific	Long Beach Harbor, CA	344	0	0%	0%	0	0%	0%
Pacific	Long Beach Outer Harbor, CA	424	0	0%	0%	0	0%	0%
Pacific	Longview, WA	33	0	0%	0%	0	0%	0%
Pacific	Los Angeles Harbor, CA	811	0	0%	0%	0	0%	0%
Gulf	Lower Miss River Mile 118	2	0	0%	0%	0	0%	0%
Gulf	Lower Miss River Mile 120	29	0	0%	0%	0	0%	0%
Gulf	Lower Miss River Mile 125	2	0	0%	0%	0	0%	0%
Gulf	Lower Miss River Mile 128	9	0	0%	0%	0	0%	0%
Gulf	Lower Miss River Mile 132	2	0	0%	0%	0	0%	0%
Gulf	Lower Miss River Mile 138	2	0	0%	0%	0	0%	0%
Gulf	Lower Miss River Mile 139	20	0	0%	0%	0	0%	0%
Gulf	Lower Miss River Mile 145	4	0	0%	0%	0	0%	0%

Appendix C-4C
Analysis of General Cargo Vessel Constraints, 2020

Coast Name	Port Name/Location Name	Number of calls	Constrained Calls with Projects	Percent of Calls Constrained	Percent of Total Constrained Calls	Constrained Calls without Projects	Percent of Calls Constrained	Percent of Total Constrained Calls
Gulf	Lower Miss River Mile 146	10	0	0%	0%	0	0%	0%
Gulf	Lower Miss River Mile 150	15	0	0%	0%	0	0%	0%
Gulf	Lower Miss River Mile 158	116	0	0%	0%	0	0%	0%
Gulf	Lower Miss River Mile 159	6	0	0%	0%	0	0%	0%
Gulf	Lower Miss River Mile 166	25	0	0%	0%	0	0%	0%
Gulf	Lower Miss River Mile 167	40	0	0%	0%	0	0%	0%
Gulf	Lower Miss River Mile 169	27	0	0%	0%	0	0%	0%
Gulf	Lower Miss River Mile 210	7	0	0%	0%	0	0%	0%
Gulf	Lower Miss River Mile 55	19	0	0%	0%	0	0%	0%
Gulf	Lower Miss River Mile 57	4	0	0%	0%	0	0%	0%
Gulf	Lower Miss River Mile 61	14	0	0%	0%	0	0%	0%
Gulf	Lower Miss River Mile 72	9	0	0%	0%	0	0%	0%
Gulf	Lower Miss River Mile 83	10	0	0%	0%	0	0%	0%
Gulf	Lower Miss River Mile 87	2	0	0%	0%	0	0%	0%
Great Lakes	Ludington Harbor, MI	2	0	0%	0%	0	0%	0%
Atlantic	Marcus Hook, PA	7	0	0%	0%	0	0%	0%
Gulf	Matagorda Ship Channel, TX	11	0	0%	0%	0	0%	0%
Atlantic	Mayaguez Hbr, PR	836	6	0.72%	0.17%	6	0.72%	0.14%
Atlantic	Miami Harbor, FL	5,060	0	0%	0%	0	0%	0%
Atlantic	Miami River, FL	2,327	2,115	90.89%	61.16%	2,115	90.89%	48.56%
Gulf	Michoud Canal, LA	21	0	0%	0%	0	0%	0%
Great Lakes	Milwaukee, WI	8	0	0%	0%	0	0%	0%
Gulf	Mobile Harbor AL	395	0	0%	0%	0	0%	0%
Gulf	Mobile Harbor, AL Chickasaw Creek	16	0	0%	0%	0	0%	0%
Atlantic	Morehead City Hbr, NC	127	0	0%	0%	0	0%	0%
Atlantic	Morrisville, PA	23	23	100%	0.67%	23	100%	0.53%
Atlantic	New Haven, CT Main Harbor	63	19	30.16%	0.55%	19	30.16%	0.44%
Gulf	New Orleans, LA, Miles 88 Thru 106	1,234	0	0%	0%	0	0%	0%

Appendix C-4C
Analysis of General Cargo Vessel Constraints, 2020

Coast Name	Port Name/Location Name	Number of calls	Constrained Calls with Projects	Percent of Calls Constrained	Percent of Total Constrained Calls	Constrained Calls without Projects	Percent of Calls Constrained	Percent of Total Constrained Calls
Atlantic	New York & New Jersey Channels Main Ship Chan To Smith Creek NJ	3	0	0%	0%	0	0%	0%
Atlantic	New York & New Jersey Channels Piles Creek/to Kill Van Kull Exc Channels South/of Shooters Island	112	0	0%	0%	64	57.14%	1.47%
Atlantic	New York & New Jersey Channels Smith Creek To Piles Creek NJ	11	4	36.36%	0.12%	4	36.36%	0.09%
Atlantic	New York & New Jersey Channels/Housman Avenue To St George S I	3	0	0%	0%	0	0%	0%
Atlantic	Newark Bay NJ Offshore Connecting Channel/between Port Newark And Port Elizabeth/branch Channels	6	0	0%	0%	0	0%	0%
Atlantic	Newark Bay NJ Port Newark Branch Channel	413	0	0%	0%	0	0%	0%
Atlantic	Newark Bay NJ-port Elizabeth Branch Channel	270	0	0%	0%	13	4.81%	0.30%
Pacific	Newport Bay Harbor, CA	51	51	100%	1.47%	51	100%	1.17%
Atlantic	Newport News , VA	265	0	0%	0%	0	0%	0%
Atlantic	Norfolk Harbor, VA Portsmouth VA	404	0	0%	0%	0	0%	0%
Atlantic	Norfolk Hbr, VA Eastern Br Eliz R	4	0	0%	0%	0	0%	0%
Atlantic	Norfolk Hbr, VA Southern Br Eliz R	24	0	0%	0%	0	0%	0%
Atlantic	Northeast, Cape Fear River NC	6	0	0%	0%	0	0%	0%
Pacific	Oakland Harbor, CA Codes 000-380, 400-835, & 840-999	139	0	0%	0%	0	0%	0%
Pacific	Oregon Slough Oregon And Bay, OR	499	4	0.80%	0.12%	4	0.80%	0.09%
Atlantic	Palm Beach Harbor, FL	3,374	0	0%	0%	0	0%	0%

Appendix C-4C
Analysis of General Cargo Vessel Constraints, 2020

Coast Name	Port Name/Location Name	Number of calls	Constrained Calls with Projects	Percent of Calls Constrained	Percent of Total Constrained Calls	Constrained Calls without Projects	Percent of Calls Constrained	Percent of Total Constrained Calls
ic								
Gulf	Panama City Harbor, FL	159	31	19.50%	0.90%	31	19.50%	0.71%
Gulf	Pascagoula Hbr, MS	58	3	5.17%	0.09%	5	8.62%	0.11%
Atlant ic	Paulsboro, NJ	5	0	0%	0%	0	0%	0%
Gulf	Pensacola Hbr, FL	19	7	36.84%	0.20%	7	36.84%	0.16%
Atlant ic	Petty Island NJ	2	0	0%	0%	0	0%	0%
Atlant ic	Philadelphia, PA On Delaware River/Allegheny Ave To Poquessing Creek	44	0	0%	0%	0	0%	0%
Atlant ic	Piscataqua River, NH	67	0	0%	0%	0	0%	0%
Pacifi c	Pittsburg, CA	2	2	100%	0.06%	2	100%	0.05%
Atlant ic	Ponce Harbor, PR	106	3	2.83%	0.09%	3	2.83%	0.07%
Gulf	Port Arthur, TX	146	0	0%	0%	0	0%	0%
Atlant ic	Port Everglades Hbr, FL	5,591	0	0%	0%	0	0%	0%
Pacifi c	Port Hueneme, CA	629	169	26.87%	4.89%	169	26.87%	3.88%
Gulf	Port Manatee, FL	121	0	0%	0%	0	0%	0%
Atlant ic	Port Royal, SC	3	0	0%	0%	0	0%	0%
Atlant ic	Portland Harbor, Fore River, ME	16	0	0%	0%	0	0%	0%
Atlant ic	Portland Harbor, ME	319	20	6.27%	0.58%	20	6.27%	0.46%
Pacifi c	Portland, OR	354	0	0%	0%	0	0%	0%
Atlant ic	Portsmouth Hbr, NH	10	0	0%	0%	0	0%	0%
Atlant ic	Providence River and Harbor, RI	14	0	0%	0%	0	0%	0%
Atlant ic	Raritan River NJ Main Channel/raritan Bay To Ostrand's Dock/Keasby NJ	2	0	0%	0%	0	0%	0%

Appendix C-4C
Analysis of General Cargo Vessel Constraints, 2020

Coast Name	Port Name/Location Name	Number of calls	Constrained Calls with Projects	Percent of Calls Constrained	Percent of Total Constrained Calls	Constrained Calls without Projects	Percent of Calls Constrained	Percent of Total Constrained Calls
Pacific	Redwood City Hbr, CA	3	0	0%	0%	0	0%	0%
Pacific	Richmond Harbor, CA Outer Harbor, Codes 000-699	22	0	0%	0%	0	0%	0%
Gulf	Sabine, Pass Harbor, TX	6	0	0%	0%	0	0%	0%
Atlantic	Salem River, NJ	24	24	100%	0.69%	24	100%	0.55%
Pacific	San Diego Harbor, CA	1,020	3	0.29%	0.09%	3	0.29%	0.07%
Pacific	San Francisco Hbr, CA	88	2	2.27%	0.06%	2	2.27%	0.05%
Atlantic	San Juan Hbr, PR	2,029	6	0.30%	0.17%	6	0.30%	0.14%
Pacific	San Pablo Bay & Mare I Strait, CA	2	0	0%	0%	0	0%	0%
Great Lakes	Sandusky Harbor, OH	5	5	100%	0.14%	5	100%	0.11%
Atlantic	Savannah Harbor, GA	1,110	0	0%	0%	74	6.67%	1.70%
Atlantic	Searsport Hbr, Me	4	0	0%	0%	0	0%	0%
Pacific	Seattle Harbor, WA Duwamish River	15	5	33.33%	0.14%	5	33.33%	0.11%
Pacific	Seattle Harbor, WA East Waterway	17	0	0%	0%	4	23.53%	0.09%
Pacific	Seattle Harbor, WA Elliott Bay	187	15	8.02%	0.43%	15	8.02%	0.34%
Pacific	Stockton, CA	44	18	40.91%	0.52%	18	40.91%	0.41%
Pacific	Suisun Bay Channel, CA	2	0	0%	0%	0	0%	0%
Great Lakes	Superior, WI	14	14	100%	0.40%	14	100%	0.32%
Pacific	Tacoma Harbor, WA	746	11	1.47%	0.32%	54	7.24%	1.24%
Atlantic	Tampa Harbor, FL	7	0	0%	0%	0	0%	0%
Gulf	Tampa Harbor, FL	514	0	0%	0%	0	0%	0%
Gulf	Texas City, TX	11	0	0%	0%	0	0%	0%

Appendix C-4C
Analysis of General Cargo Vessel Constraints, 2020

Coast Name	Port Name/Location Name	Number of calls	Constrained Calls with Projects	Percent of Calls Constrained	Percent of Total Constrained Calls	Constrained Calls without Projects	Percent of Calls Constrained	Percent of Total Constrained Calls
Atlantic	Thru 04470 Philadelphia, PA On Delaware Rv/Hog Island To Allegheny Ave	660	0	0%	0%	0	0%	0%
Gulf	Thru 66540 Giww Galveston To Corpus Christi	28	0	0%	0%	0	0%	0%
Great Lakes	Thru 77647 Port Of Chicago Il/calumet Harbor, & River Il & In-south Chicago	37	0	0%	0%	0	0%	0%
Great Lakes	Toledo, OH	38	4	10.53%	0.12%	4	10.53%	0.09%
Atlantic	Upper Bay, NY Narrows To/Municipal Ferry Dock St Geo Si/exc Bay Ridge Red Hook & Buttermilk Channels	60	0	0%	0%	0	0%	0%
Atlantic	Upper Bay, NY/Bayonne NJ To Claremont NJ/bay Ridge Flats And Bedloes Is	935	0	0%	0%	0	0%	0%
Pacific	Vancouver, WA	165	0	0%	0%	0	0%	0%
Atlantic	Wando River, SC	50	0	0%	0%	0	0%	0%
Atlantic	Wilmington Harbor, NC	193	25	12.95%	0.72%	25	12.95%	0.57%
Pacific	Yolo Port District, CA	9	3	33.33%	0.09%	3	33.33%	0.07%

Appendix C-5A
Analysis of All Other Vessel Constraints, 2000

Coast Name	Port Name/Location Name	Number of calls	Constrained Calls with Projects	Percent of Calls Constrained	Percent of Total Constrained Calls	Constrained Calls without Projects	Percent of Calls Constrained	Percent of Total Constrained Calls
Pacific	Adak Island, AK (coast)	4	0	0%	0%	0	0%	0%
Atlantic	Albany, NY	8	0	0%	0%	0	0%	0%
Great Lakes	Alpena, MI	8	0	0%	0%	0	0%	0%
Pacific	Anacortes Harbor, WA	208	0	0%	0%	0	0%	0%
Pacific	Anchorage, AK	12	0	0%	0%	0	0%	0%
Atlantic	Arecibo Harbor, PR	2	0	0%	0%	0	0%	0%
Great Lakes	Ashtabula Harbor, OH	4	0	0%	0%	0	0%	0%
Pacific	Astoria, OR	2	0	0%	0%	0	0%	0%
Gulf	Atchafalaya R Morgan Cty To Gulf	2	0	0%	0%	0	0%	0%
Atlantic	Baltimore Hbr and Channels, MD	24	0	0%	0%	0	0%	0%
Gulf	Baton Rouge, LA Miles 226 Thru 235	2	0	0%	0%	0	0%	0%
Gulf	Bayou Casotte, MS	36	0	0%	0%	0	0%	0%
Gulf	Bayou La Batre, AL	22	22	100%	13.58%	22	100%	13.58%
Gulf	Beaumont, TX	40	0	0%	0%	0	0%	0%
Pacific	Bellingham Bay & Harbor, WA Main Channel	4	0	0%	0%	0	0%	0%
Pacific	Bellingham Bay & Harbor, WA/Squalicum Creek Waterway	2	0	0%	0%	0	0%	0%
Pacific	Bellingham Bay & Harbor, WA/Whatcom Creek Waterway	52	0	0%	0%	0	0%	0%
Atlantic	Boston MA Island End River	4	0	0%	0%	0	0%	0%
Atlantic	Boston, MA Chelsea River	2	0	0%	0%	0	0%	0%
Atlantic	Boston, MA Main Water Front	6	0	0%	0%	0	0%	0%
Atlantic	Boston, MA Mystic River	2	0	0%	0%	0	0%	0%

Appendix C-5A
Analysis of All Other Vessel Constraints, 2000

Coast Name	Port Name/Location Name	Number of calls	Constrained Calls with Projects	Percent of Calls Constrained	Percent of Total Constrained Calls	Constrained Calls without Projects	Percent of Calls Constrained	Percent of Total Constrained Calls
Atlantic								
Atlantic	Bridgeport, CT Main Harbor	92	0	0%	0%	0	0%	0%
Gulf	Brownsville Ship Channel, TX	48	0	0%	0%	0	0%	0%
Atlantic	Brunswick Hbr, GA	60	10	16.67%	6.17%	10	16.67%	6.17%
Great Lakes	Buffalo Harbor, NY	4	0	0%	0%	0	0%	0%
Great Lakes	Burns Waterway Harbor, IN	6	0	0%	0%	0	0%	0%
Atlantic	Buttermilk Channel, NY	2	0	0%	0%	0	0%	0%
Gulf	Calcasieu River and Pass Lake Charles, LA	30	0	0%	0%	0	0%	0%
Atlantic	Camden, NJ	222	0	0%	0%	0	0%	0%
Atlantic	Canaveral Harbor, FL	574	0	0%	0%	0	0%	0%
Pacific	Carquinez Strait, CA	2	0	0%	0%	0	0%	0%
Atlantic	Cementon, NY	2	0	0%	0%	0	0%	0%
Atlantic	Charleston Cooper River, SC	28	0	0%	0%	0	0%	0%
Great Lakes	Charlevoix Michigan Ironon, MI	10	0	0%	0%	0	0%	0%
Atlantic	Chesapeake Bay Open Waters	8	0	0%	0%	0	0%	0%
Atlantic	Christina River Wilmington De	236	0	0%	0%	0	0%	0%
Great Lakes	Cleveland Harbor, OH	82	0	0%	0%	0	0%	0%
Great Lakes	Conneaut Harbor, OH	50	0	0%	0%	0	0%	0%
Pacific	Coos Bay, OR Inside Channel To/Millington, OR	16	0	0%	0%	0	0%	0%
Gulf	Corpus Christi, TX	30	0	0%	0%	0	0%	0%
Atlantic	Dania Cut Off Canal, FL	770	0	0%	0%	0	0%	0%

Appendix C-5A
Analysis of All Other Vessel Constraints, 2000

Coast Name	Port Name/Location Name	Number of calls	Constrained Calls with Projects	Percent of Calls Constrained	Percent of Total Constrained Calls	Constrained Calls without Projects	Percent of Calls Constrained	Percent of Total Constrained Calls
Atlantic	Davisville, RI	2	0	0%	0%	0	0%	0%
Great Lakes	Dearborn MI See Rouge Riv/Rouge River MI Dearborn MI	84	0	0%	0%	0	0%	0%
Atlantic	Delaware City, DE	4	0	0%	0%	0	0%	0%
Great Lakes	Detroit, MI	56	0	0%	0%	0	0%	0%
Great Lakes	Duluth, MN	20	0	0%	0%	0	0%	0%
Atlantic	Eagle Point Westville, NJ	2	0	0%	0%	0	0%	0%
Gulf	East Pearl River, MS	118	2	1.69%	1.23%	2	1.69%	1.23%
Atlantic	East River NY Upper NY Bay To USN Shipyard	2	0	0%	0%	0	0%	0%
Atlantic	East River, NY/USN Shipyard, Excluding East Channel	2	0	0%	0%	0	0%	0%
Atlantic	Eastport Hbr, ME	768	0	0%	0%	0	0%	0%
Great Lakes	Ecorse, MI	2	0	0%	0%	0	0%	0%
Atlantic	Eddystone, PA	6	0	0%	0%	0	0%	0%
Great Lakes	Essexville, MI	2	0	0%	0%	0	0%	0%
Pacific	Everett Harbor, WA Outer Harbor	202	0	0%	0%	0	0%	0%
Atlantic	Fajardo Hbr, PR	42	0	0%	0%	0	0%	0%
Atlantic	Fall River Hbr, MA	2	0	0%	0%	0	0%	0%
Pacific	False, Pass, AK (coast)	2	0	0%	0%	0	0%	0%
Atlantic	Fernandina, FL	144	0	0%	0%	0	0%	0%
Pacific	Ferndale, WA	162	0	0%	0%	0	0%	0%
Atlantic	Fort Pierce Hbr, FL	124	8	6.45%	4.94%	8	6.45%	4.94%

Appendix C-5A
Analysis of All Other Vessel Constraints, 2000

Coast Name	Port Name/Location Name	Number of calls	Constrained Calls with Projects	Percent of Calls Constrained	Percent of Total Constrained Calls	Constrained Calls without Projects	Percent of Calls Constrained	Percent of Total Constrained Calls
ic								
Gulf	Freeport Harbor, TX	36	0	0%	0%	0	0%	0%
Gulf	Galveston Channel, TX	130	0	0%	0%	0	0%	0%
Great Lakes	Gary, IN	2	0	0%	0%	0	0%	0%
Atlant ic	Gloucester, NJ	180	0	0%	0%	0	0%	0%
Pacifi c	Grays Harbor, & Chehalis River Wa/North Aberdeen And North Channel	4	0	0%	0%	0	0%	0%
Pacifi c	Grays Hbr & Chehalis River, WA South Aberdeen	30	0	0%	0%	0	0%	0%
Pacifi c	Grays Hbr & Chehalis River, WA Westhaven	6	0	0%	0%	0	0%	0%
Atlant ic	Guanica Hbr, PR	2	0	0%	0%	0	0%	0%
Atlant ic	Guayanilla Hbr, PR	6	0	0%	0%	0	0%	0%
Gulf	Gulf Outlet Miles 70-73	6	0	0%	0%	0	0%	0%
Gulf	Gulf Via Tiger, Pass	4	0	0%	0%	0	0%	0%
Gulf	Gulfport Hbr & Ship Is Pass, MS	416	0	0%	0%	0	0%	0%
Pacifi c	Homer, AK	24	6	25.00%	3.70%	6	25.00%	3.70%
Pacifi c	Honolulu Hbr, Oahu, HI	70	0	0%	0%	0	0%	0%
Pacifi c	Hoonah, AK	2	2	100%	1.23%	2	100%	1.23%
Gulf	Houston Ship Channel, TX	348	0	0%	0%	0	0%	0%
Atlant ic	Hudson River, NY & NJ Yonkers NY	6	0	0%	0%	0	0%	0%
Pacifi c	Humboldt Harbor, AK (coast)	2	2	100%	1.23%	2	100%	1.23%
Pacifi c	Humboldt Hbr & Bay, CA	12	0	0%	0%	0	0%	0%
Atlant ic	Icw Port Everglades Harbor, Fl Miles 175 Thru 183	16	0	0%	0%	0	0%	0%
Atlant ic	Icw, PALm Beach Harbor, Fl Miles 223 Thru 230	2	0	0%	0%	0	0%	0%

Appendix C-5A
Analysis of All Other Vessel Constraints, 2000

Coast Name	Port Name/Location Name	Number of calls	Constrained Calls with Projects	Percent of Calls Constrained	Percent of Total Constrained Calls	Constrained Calls without Projects	Percent of Calls Constrained	Percent of Total Constrained Calls
Pacific	Icy Bay, AK	2	0	0%	0%	0	0%	0%
Great Lakes	Indiana Harbor Indiana East Chicago, IN	4	0	0%	0%	0	0%	0%
Gulf	Inner Harbor Navigation Canal, LA	58	0	0%	0%	0	0%	0%
Atlantic	Jacksonville Harbor, FL	258	0	0%	0%	0	0%	0%
Atlantic	James River & Port of Hopewell, VA	2	0	0%	0%	0	0%	0%
Atlantic	James River, VA	2	0	0%	0%	0	0%	0%
Atlantic	Jobos Hbr, PR	2	0	0%	0%	0	0%	0%
Pacific	Juneau Gastineau Channel, AK	48	0	0%	0%	0	0%	0%
Pacific	Kalama, WA	8	0	0%	0%	0	0%	0%
Pacific	Ketchikan, AK (Tongass Narrows)	6	2	33.33%	1.23%	2	33.33%	1.23%
Atlantic	Key West Hbr, FL	2	0	0%	0%	0	0%	0%
Pacific	Kivilina, AK (coast)	52	0	0%	0%	0	0%	0%
Pacific	Kodiak Island, AK (coast)	6	0	0%	0%	0	0%	0%
Great Lakes	Lake Calumet, IL	12	0	0%	0%	0	0%	0%
Pacific	Little Sandy River, OR	2	0	0%	0%	0	0%	0%
Pacific	Long Beach Harbor, CA	122	0	0%	0%	0	0%	0%
Pacific	Long Beach Outer Harbor, CA	46	0	0%	0%	0	0%	0%
Pacific	Longview (Mt. Coffin)	2	0	0%	0%	0	0%	0%
Pacific	Longview, WA	2	0	0%	0%	0	0%	0%
Great Lakes	Lorain Harbor, OH	2	0	0%	0%	0	0%	0%

Appendix C-5A
Analysis of All Other Vessel Constraints, 2000

Coast Name	Port Name/Location Name	Number of calls	Constrained Calls with Projects	Percent of Calls Constrained	Percent of Total Constrained Calls	Constrained Calls without Projects	Percent of Calls Constrained	Percent of Total Constrained Calls
Pacific	Los Angeles Harbor, CA	140	0	0%	0%	0	0%	0%
Atlantic	Lower Delaware Bay, DE	4	0	0%	0%	0	0%	0%
Gulf	Lower Miss River Mile 108	12	0	0%	0%	0	0%	0%
Gulf	Lower Miss River Mile 116	2	0	0%	0%	0	0%	0%
Gulf	Lower Miss River Mile 118	4	0	0%	0%	0	0%	0%
Gulf	Lower Miss River Mile 120	8	0	0%	0%	0	0%	0%
Gulf	Lower Miss River Mile 128	6	0	0%	0%	0	0%	0%
Gulf	Lower Miss River Mile 132	34	0	0%	0%	0	0%	0%
Gulf	Lower Miss River Mile 139	22	0	0%	0%	0	0%	0%
Gulf	Lower Miss River Mile 146	2	0	0%	0%	0	0%	0%
Gulf	Lower Miss River Mile 150	2	0	0%	0%	0	0%	0%
Gulf	Lower Miss River Mile 158	20	0	0%	0%	0	0%	0%
Gulf	Lower Miss River Mile 166	4	0	0%	0%	0	0%	0%
Gulf	Lower Miss River Mile 169	2	0	0%	0%	0	0%	0%
Gulf	Lower Miss River Mile 53	4	0	0%	0%	0	0%	0%
Gulf	Lower Miss River Mile 55	4	0	0%	0%	0	0%	0%
Gulf	Lower Miss River Mile 61	14	0	0%	0%	0	0%	0%
Gulf	Lower Miss River Mile 72	2	0	0%	0%	0	0%	0%
Great Lakes	Ludington Harbor, MI	14	0	0%	0%	0	0%	0%
Great Lakes	Manistee Harbor, MI	4	0	0%	0%	0	0%	0%
Atlantic	Marcus Hook, PA	10	0	0%	0%	0	0%	0%
Great Lakes	Marysville, MI	12	0	0%	0%	0	0%	0%
Gulf	Matagorda Ship Channel, TX	4	0	0%	0%	0	0%	0%
Atlantic	Mayaguez Hbr, PR	28	0	0%	0%	0	0%	0%
Atlantic	Miami Harbor, FL	630	0	0%	0%	0	0%	0%
Atlantic	Miami River, FL	1,100	102	9.27%	62.96%	102	9.27%	62.96%
Gulf	Michoud Canal, LA	2	0	0%	0%	0	0%	0%
Great Lakes	Milwaukee, WI	16	0	0%	0%	0	0%	0%

Appendix C-5A
Analysis of All Other Vessel Constraints, 2000

Coast Name	Port Name/Location Name	Number of calls	Constrained Calls with Projects	Percent of Calls Constrained	Percent of Total Constrained Calls	Constrained Calls without Projects	Percent of Calls Constrained	Percent of Total Constrained Calls
Gulf	Mobile Harbor AL	58	0	0%	0%	0	0%	0%
Gulf	Mobile Harbor, AL Chickasaw Creek	6	0	0%	0%	0	0%	0%
Great Lakes	Monroe Harbor, MI	12	0	0%	0%	0	0%	0%
Atlantic	Morehead City Hbr, NC	8	0	0%	0%	0	0%	0%
Atlantic	Morrisville, PA	2	0	0%	0%	0	0%	0%
Great Lakes	Muskegon Harbor, MI	12	0	0%	0%	0	0%	0%
Atlantic	New Bedford & Fairhaven Hbr, MA	46	0	0%	0%	0	0%	0%
Atlantic	New Haven, CT Main Harbor	16	0	0%	0%	0	0%	0%
Gulf	New Orleans, LA, Miles 88 Thru 106	214	0	0%	0%	0	0%	0%
Atlantic	New York & New Jersey Channels Piles Creek/to Kill Van Kull Exc Channels South/of Shooters Island	106	0	0%	0%	0	0%	0%
Atlantic	New York & New Jersey Channels Smith Creek To Piles Creek NJ	2	0	0%	0%	0	0%	0%
Atlantic	Newark Bay NJ Port Newark Branch Channel	6	0	0%	0%	0	0%	0%
Atlantic	Newark Bay NJ-port Elizabeth Branch Channel	26	0	0%	0%	0	0%	0%
Atlantic	Newport News , VA	20	0	0%	0%	0	0%	0%
Pacific	Nikishki, AK	10	0	0%	0%	0	0%	0%
Atlantic	Norfolk Harbor, VA Portsmouth VA	46	0	0%	0%	0	0%	0%
Atlantic	Norfolk Hbr, VA Eastern Br Eliz R	4	0	0%	0%	0	0%	0%
Atlantic	Norfolk Hbr, VA Southern Br Eliz R	8	0	0%	0%	0	0%	0%
Atlantic	Northeast, Cape Fear River NC	14	0	0%	0%	0	0%	0%

Appendix C-5A
Analysis of All Other Vessel Constraints, 2000

Coast Name	Port Name/Location Name	Number of calls	Constrained Calls with Projects	Percent of Calls Constrained	Percent of Total Constrained Calls	Constrained Calls without Projects	Percent of Calls Constrained	Percent of Total Constrained Calls
Pacific	Oakland Harbor, CA Codes 000-380, 400-835, & 840-999	4	0	0%	0%	0	0%	0%
Pacific	Olympia Harbor, WA	6	0	0%	0%	0	0%	0%
Pacific	Oregon Slough Oregon And Bay, OR	10	0	0%	0%	0	0%	0%
Great Lakes	Oswego Harbor, NY	6	0	0%	0%	0	0%	0%
Atlantic	Palm Beach Harbor, FL	164	0	0%	0%	0	0%	0%
Gulf	Panama City Harbor, FL	50	0	0%	0%	0	0%	0%
Gulf	Pascagoula Hbr, MS	86	0	0%	0%	0	0%	0%
Atlantic	Paulsboro, NJ	4	0	0%	0%	0	0%	0%
Atlantic	Penobscot River, ME	6	0	0%	0%	0	0%	0%
Gulf	Pensacola Hbr, FL	78	0	0%	0%	0	0%	0%
Atlantic	Petty Island NJ	4	0	0%	0%	0	0%	0%
Atlantic	Philadelphia, PA On Delaware River/Allegheny Ave To Poquessing Creek	136	0	0%	0%	0	0%	0%
Atlantic	Piscataqua River, NH	22	0	0%	0%	0	0%	0%
Pacific	Pittsburg, CA	2	0	0%	0%	0	0%	0%
Atlantic	Plymouth Harbor, MA	4	2	50.00%	1.23%	2	50.00%	1.23%
Atlantic	Ponce Harbor, PR	38	0	0%	0%	0	0%	0%
Pacific	Port Angeles Harbor, WA	104	0	0%	0%	0	0%	0%
Gulf	Port Arthur, TX	20	0	0%	0%	0	0%	0%
Atlantic	Port Everglades Hbr, FL	478	0	0%	0%	0	0%	0%
Pacific	Port Hueneme, CA	194	0	0%	0%	0	0%	0%
Gulf	Port Manatee, FL	134	0	0%	0%	0	0%	0%
Atlantic	Port Royal, SC	2	0	0%	0%	0	0%	0%

Appendix C-5A
Analysis of All Other Vessel Constraints, 2000

Coast Name	Port Name/Location Name	Number of calls	Constrained Calls with Projects	Percent of Calls Constrained	Percent of Total Constrained Calls	Constrained Calls without Projects	Percent of Calls Constrained	Percent of Total Constrained Calls
Atlantic	Portland Harbor, ME	70	0	0%	0%	0	0%	0%
Pacific	Portland, OR	130	0	0%	0%	0	0%	0%
Atlantic	Portsmouth Hbr, NH	8	0	0%	0%	0	0%	0%
Atlantic	Providence River and Harbor, RI	16	0	0%	0%	0	0%	0%
Pacific	Redwood City Hbr, CA	4	0	0%	0%	0	0%	0%
Pacific	Revillagigedo Channel	4	0	0%	0%	0	0%	0%
Pacific	Richmond Harbor, CA Outer Harbor, Codes 000-699	4	0	0%	0%	0	0%	0%
Gulf	Sabine, Pass Harbor, TX	12	0	0%	0%	0	0%	0%
Great Lakes	Saginaw, MI	6	0	0%	0%	0	0%	0%
Atlantic	Salem River, NJ	10	2	20.00%	1.23%	2	20.00%	1.23%
Pacific	San Diego Harbor, CA	346	0	0%	0%	0	0%	0%
Pacific	San Francisco Hbr, CA	4	0	0%	0%	0	0%	0%
Atlantic	San Juan Hbr, PR	986	0	0%	0%	0	0%	0%
Atlantic	Savannah Harbor, GA	88	0	0%	0%	0	0%	0%
Atlantic	Searsport Hbr, Me	32	0	0%	0%	0	0%	0%
Pacific	Seattle Harbor, WA Duwamish River	726	0	0%	0%	0	0%	0%
Pacific	Seattle Harbor, WA East Waterway	360	0	0%	0%	0	0%	0%
Pacific	Seattle Harbor, WA Elliott Bay	64	0	0%	0%	0	0%	0%
Pacific	Seattle Harbor, WA Harbor Island	108	0	0%	0%	0	0%	0%
Pacific	Seattle Harbor, WA West	2	0	0%	0%	0	0%	0%

Appendix C-5A
Analysis of All Other Vessel Constraints, 2000

Coast Name	Port Name/Location Name	Number of calls	Constrained Calls with Projects	Percent of Calls Constrained	Percent of Total Constrained Calls	Constrained Calls without Projects	Percent of Calls Constrained	Percent of Total Constrained Calls
c	Waterway							
Pacific	Seward, AK	2	2	100%	1.23%	2	100%	1.23%
Pacific	Skagway Harbor, AK	14	0	0%	0%	0	0%	0%
Great Lakes	St Ignace, MI	2	0	0%	0%	0	0%	0%
Pacific	St., Paul Is., AK (Pribilof Island-coast)	2	0	0%	0%	0	0%	0%
Pacific	Steilacoom, WA	2	0	0%	0%	0	0%	0%
Great Lakes	Stoneport, MI	2	0	0%	0%	0	0%	0%
Great Lakes	Superior, WI	2	0	0%	0%	0	0%	0%
Pacific	Tacoma Harbor, WA	380	0	0%	0%	0	0%	0%
Pacific	Tacoma Harbor, WA Middle Waterway	50	0	0%	0%	0	0%	0%
Gulf	Tampa Harbor, FL	242	0	0%	0%	0	0%	0%
Atlantic	Texas City, TX	4	0	0%	0%	0	0%	0%
	Thru 04470 Philadelphia, PA On Delaware Rv/Hog Island To Allegheny Ave	376	0	0%	0%	0	0%	0%
Gulf	Thru 66540 Giww Galveston To Corpus Christi	20	0	0%	0%	0	0%	0%
Great Lakes	Thru 77647 Port Of Chicago Il/calumet Harbor, & River Il & In-south Chicago	38	0	0%	0%	0	0%	0%
Pacific	Togiak, AK (Bristol Bay)	2	0	0%	0%	0	0%	0%
Great Lakes	Toledo, OH	72	0	0%	0%	0	0%	0%
Pacific	Unak Bay & Island, AK/(Iliuliuk & Dutch Hbr.)	70	0	0%	0%	0	0%	0%
Atlantic	Upper Bay, NY Narrows To/Municipal Ferry Dock St Geo Si/exc Bay Ridge	14	0	0%	0%	0	0%	0%

Appendix C-5A
Analysis of All Other Vessel Constraints, 2000

Coast Name	Port Name/Location Name	Number of calls	Constrained Calls with Projects	Percent of Calls Constrained	Percent of Total Constrained Calls	Constrained Calls without Projects	Percent of Calls Constrained	Percent of Total Constrained Calls
	Red Hook & Buttermilk Channels							
Atlantic	Upper Bay, NY/Bayonne NJ To Claremont NJ/bay Ridge Flats And Bedloes Is	4	0	0%	0%	0	0%	0%
Pacific	Valdez, AK	4	0	0%	0%	0	0%	0%
Pacific	Vancouver, WA	4	0	0%	0%	0	0%	0%
Atlantic	Wando River, SC	2	0	0%	0%	0	0%	0%
Great Lakes	Waukegan, IL	4	0	0%	0%	0	0%	0%
Pacific	Wauna, OR	22	0	0%	0%	0	0%	0%
Pacific	Whittier, AK	50	0	0%	0%	0	0%	0%
Atlantic	Wilmington Harbor, NC	30	0	0%	0%	0	0%	0%

Appendix C-5B
Analysis of All Other Vessel Constraints, 2010

Coast Name	Port Name/Location Name	Number of calls	Constrained Calls with Projects	Percent of Calls Constrained	Percent of Total Constrained Calls	Constrained Calls without Projects	Percent of Calls Constrained	Percent of Total Constrained Calls
Pacific	Adak Island, AK (coast)	6	0	0%	0%	0	0%	0%
Atlantic	Albany, NY	12	0	0%	0%	0	0%	0%
Great Lakes	Alpena, MI	10	0	0%	0%	0	0%	0%
Pacific	Anacortes Harbor, WA	269	0	0%	0%	0	0%	0%
Pacific	Anchorage, AK	13	0	0%	0%	0	0%	0%
Atlantic	Arecibo Harbor, PR	3	0	0%	0%	0	0%	0%
Great Lakes	Ashtabula Harbor, OH	5	0	0%	0%	0	0%	0%
Pacific	Astoria, OR	3	0	0%	0%	0	0%	0%
Gulf	Atchafalaya R Morgan Cty To Gulf	2	0	0%	0%	0	0%	0%
Atlantic	Baltimore Hbr and Channels, MD	31	0	0%	0%	0	0%	0%
Gulf	Baton Rouge, LA Miles 226 Thru 235	3	0	0%	0%	0	0%	0%
Gulf	Bayou Casotte, MS	75	0	0%	0%	0	0%	0%
Gulf	Bayou La Batre, AL	33	33	100%	17.28%	33	100%	16.26%
Gulf	Beaumont, TX	47	0	0%	0%	0	0%	0%
Pacific	Bellingham Bay & Harbor, WA Main Channel	5	0	0%	0%	0	0%	0%
Pacific	Bellingham Bay & Harbor, WA/Squalicum Creek Waterway	3	0	0%	0%	0	0%	0%
Pacific	Bellingham Bay & Harbor, WA/Whatcom Creek Waterway	59	0	0%	0%	0	0%	0%
Atlantic	Boston MA Island End River	5	0	0%	0%	0	0%	0%
Atlantic	Boston, MA Chelsea River	2	0	0%	0%	0	0%	0%
Atlantic	Boston, MA Main Water Front	8	0	0%	0%	0	0%	0%

Appendix C-5B
Analysis of All Other Vessel Constraints, 2010

Coast Name	Port Name/Location Name	Number of calls	Constrained Calls with Projects	Percent of Calls Constrained	Percent of Total Constrained Calls	Constrained Calls without Projects	Percent of Calls Constrained	Percent of Total Constrained Calls
Atlant ic	Boston, MA Mystic River	3	0	0%	0%	0	0%	0%
Atlant ic	Bridgeport, CT Main Harbor	182	0	0%	0%	0	0%	0%
Gulf	Brownsville Ship Channel, TX	72	0	0%	0%	0	0%	0%
Atlant ic	Brunswick Hbr, GA	75	0	0%	0%	12	16.00%	5.91%
Great Lakes	Buffalo Harbor, NY	5	0	0%	0%	0	0%	0%
Great Lakes	Burns Waterway Harbor, IN	7	0	0%	0%	0	0%	0%
Atlant ic	Buttermilk Channel, NY	3	0	0%	0%	0	0%	0%
Gulf	Calcasieu River and Pass Lake Charles, LA	36	0	0%	0%	0	0%	0%
Atlant ic	Camden, NJ	381	0	0%	0%	0	0%	0%
Atlant ic	Canaveral Harbor, FL	847	0	0%	0%	0	0%	0%
Pacifi c	Carquinez Strait, CA	2	0	0%	0%	0	0%	0%
Atlant ic	Cementon, NY	2	0	0%	0%	0	0%	0%
Atlant ic	Charleston Cooper River, SC	37	0	0%	0%	0	0%	0%
Great Lakes	Charlevoix Michigan Ironton, MI	13	0	0%	0%	0	0%	0%
Atlant ic	Chesapeake Bay Open Waters	12	0	0%	0%	0	0%	0%
Atlant ic	Christina River Wilmington De	392	0	0%	0%	0	0%	0%
Great Lakes	Cleveland Harbor, OH	126	0	0%	0%	0	0%	0%
Great Lakes	Conneaut Harbor, OH	60	0	0%	0%	0	0%	0%
Pacifi c	Coos Bay, OR Inside Channel To/Millington, OR	18	0	0%	0%	0	0%	0%
Gulf	Corpus Christi, TX	37	0	0%	0%	0	0%	0%
Atlant ic	Dania Cut Off Canal, FL	929	0	0%	0%	0	0%	0%

Appendix C-5B
Analysis of All Other Vessel Constraints, 2010

Coast Name	Port Name/Location Name	Number of calls	Constrained Calls with Projects	Percent of Calls Constrained	Percent of Total Constrained Calls	Constrained Calls without Projects	Percent of Calls Constrained	Percent of Total Constrained Calls
Atlantic								
Atlantic	Davisville, RI	3	0	0%	0%	0	0%	0%
Great Lakes	Dearborn MI See Rouge Riv/Rouge River MI Dearborn MI	107	0	0%	0%	0	0%	0%
Atlantic	Delaware City, DE	7	0	0%	0%	0	0%	0%
Great Lakes	Detroit, MI	73	0	0%	0%	0	0%	0%
Great Lakes	Duluth, MN	25	0	0%	0%	0	0%	0%
Atlantic	Eagle Point Westville, NJ	2	0	0%	0%	0	0%	0%
Gulf	East Pearl River, MS	243	4	1.65%	2.09%	4	1.65%	1.97%
Atlantic	East River NY Upper NY Bay To USN Shipyard	4	0	0%	0%	0	0%	0%
Atlantic	East River, NY/USN Shipyard, Excluding East Channel	2	0	0%	0%	0	0%	0%
Atlantic	Eastport Hbr, ME	1,031	0	0%	0%	0	0%	0%
Great Lakes	Ecorse, MI	2	0	0%	0%	0	0%	0%
Atlantic	Eddystone, PA	10	0	0%	0%	0	0%	0%
Great Lakes	Essexville, MI	2	0	0%	0%	0	0%	0%
Pacific	Everett Harbor, WA Outer Harbor	206	0	0%	0%	0	0%	0%
Atlantic	Fajardo Hbr, PR	52	0	0%	0%	0	0%	0%
Atlantic	Fall River Hbr, MA	2	0	0%	0%	0	0%	0%
Pacific	False, Pass, AK (coast)	3	0	0%	0%	0	0%	0%
Atlantic	Fernandina, FL	176	0	0%	0%	0	0%	0%
Pacific	Ferndale, WA	189	0	0%	0%	0	0%	0%

Appendix C-5B
Analysis of All Other Vessel Constraints, 2010

Coast Name	Port Name/Location Name	Number of calls	Constrained Calls with Projects	Percent of Calls Constrained	Percent of Total Constrained Calls	Constrained Calls without Projects	Percent of Calls Constrained	Percent of Total Constrained Calls
Atlant ic	Fort Pierce Hbr, FL	193	10	5.18%	5.24%	10	5.18%	4.93%
Gulf	Freeport Harbor, TX	41	0	0%	0%	0	0%	0%
Gulf	Galveston Channel, TX	206	0	0%	0%	0	0%	0%
Great Lakes	Gary, IN	2	0	0%	0%	0	0%	0%
Atlant ic	Gloucester, NJ	328	0	0%	0%	0	0%	0%
Pacifi c	Grays Harbor, & Chehalis River Wa/North Aberdeen And North Channel	5	0	0%	0%	0	0%	0%
Pacifi c	Grays Hbr & Chehalis River, WA South Aberdeen	39	0	0%	0%	0	0%	0%
Pacifi c	Grays Hbr & Chehalis River, WA Westhaven	10	0	0%	0%	0	0%	0%
Atlant ic	Guanica Hbr, PR	2	0	0%	0%	0	0%	0%
Atlant ic	Guayanilla Hbr, PR	9	0	0%	0%	0	0%	0%
Gulf	Gulf Outlet Miles 70-73	8	0	0%	0%	0	0%	0%
Gulf	Gulf Via Tiger, Pass	4	0	0%	0%	0	0%	0%
Gulf	Gulfport Hbr & Ship Is Pass, MS	780	0	0%	0%	0	0%	0%
Pacifi c	Homer, AK	28	9	32.14%	4.71%	9	32.14%	4.43%
Pacifi c	Honolulu Hbr, Oahu, HI	99	0	0%	0%	0	0%	0%
Pacifi c	Hoonah, AK	3	3	100%	1.57%	3	100%	1.48%
Gulf	Houston Ship Channel, TX	490	0	0%	0%	0	0%	0%
Atlant ic	Hudson River, NY & NJ Yonkers NY	6	0	0%	0%	0	0%	0%
Pacifi c	Humboldt Harbor, AK (coast)	3	3	100%	1.57%	3	100%	1.48%
Pacifi c	Humboldt Hbr & Bay, CA	16	0	0%	0%	0	0%	0%
Atlant ic	Icw Port Everglades Harbor, Fl Miles 175 Thru 183	18	0	0%	0%	0	0%	0%
Atlant	Icw, PAIm Beach Harbor,	3	0	0%	0%	0	0%	0%

Appendix C-5B
Analysis of All Other Vessel Constraints, 2010

Coast Name	Port Name/Location Name	Number of calls	Constrained Calls with Projects	Percent of Calls Constrained	Percent of Total Constrained Calls	Constrained Calls without Projects	Percent of Calls Constrained	Percent of Total Constrained Calls
ic	Fl Miles 223 Thru 230							
Pacifi c	Icy Bay, AK	3	0	0%	0%	0	0%	0%
Great Lakes	Indiana Harbor Indiana East Chicago, IN	5	0	0%	0%	0	0%	0%
Gulf	Inner Harbor Navigation Canal, LA	73	0	0%	0%	0	0%	0%
Atlant ic	Jacksonville Harbor, FL	315	0	0%	0%	0	0%	0%
Atlant ic	James River & Port of Hopewell, VA	2	0	0%	0%	0	0%	0%
Atlant ic	James River, VA	2	0	0%	0%	0	0%	0%
Atlant ic	Jobos Hbr, PR	2	0	0%	0%	0	0%	0%
Pacifi c	Juneau Gastineau Channel, AK	74	0	0%	0%	0	0%	0%
Pacifi c	Kalama, WA	11	0	0%	0%	0	0%	0%
Pacifi c	Ketchikan, AK (Tongass Narrows)	8	3	37.50%	1.57%	3	37.50%	1.48%
Atlant ic	Key West Hbr, FL	4	0	0%	0%	0	0%	0%
Pacifi c	Kivilina, AK (coast)	61	0	0%	0%	0	0%	0%
Pacifi c	Kodiak Island, AK (coast)	9	0	0%	0%	0	0%	0%
Great Lakes	Lake Calumet, IL	14	0	0%	0%	0	0%	0%
Pacifi c	Little Sandy River, OR	3	0	0%	0%	0	0%	0%
Pacifi c	Long Beach Harbor, CA	211	0	0%	0%	0	0%	0%
Pacifi c	Long Beach Outer Harbor, CA	63	0	0%	0%	0	0%	0%
Pacifi c	Longview (Mt. Coffin)	3	0	0%	0%	0	0%	0%
Pacifi c	Longview, WA	3	0	0%	0%	0	0%	0%
Great	Lorain Harbor, OH	2	0	0%	0%	0	0%	0%

Appendix C-5B
Analysis of All Other Vessel Constraints, 2010

Coast Name	Port Name/Location Name	Number of calls	Constrained Calls with Projects	Percent of Calls Constrained	Percent of Total Constrained Calls	Constrained Calls without Projects	Percent of Calls Constrained	Percent of Total Constrained Calls
Lakes								
Pacific	Los Angeles Harbor, CA	251	0	0%	0%	0	0%	0%
Atlantic	Lower Delaware Bay, DE	8	0	0%	0%	0	0%	0%
Gulf	Lower Miss River Mile 108	16	0	0%	0%	0	0%	0%
Gulf	Lower Miss River Mile 116	3	0	0%	0%	0	0%	0%
Gulf	Lower Miss River Mile 118	5	0	0%	0%	0	0%	0%
Gulf	Lower Miss River Mile 120	11	0	0%	0%	0	0%	0%
Gulf	Lower Miss River Mile 128	9	0	0%	0%	0	0%	0%
Gulf	Lower Miss River Mile 132	46	0	0%	0%	0	0%	0%
Gulf	Lower Miss River Mile 139	27	0	0%	0%	0	0%	0%
Gulf	Lower Miss River Mile 146	2	0	0%	0%	0	0%	0%
Gulf	Lower Miss River Mile 150	2	0	0%	0%	0	0%	0%
Gulf	Lower Miss River Mile 158	23	0	0%	0%	0	0%	0%
Gulf	Lower Miss River Mile 166	4	0	0%	0%	0	0%	0%
Gulf	Lower Miss River Mile 169	2	0	0%	0%	0	0%	0%
Gulf	Lower Miss River Mile 53	5	0	0%	0%	0	0%	0%
Gulf	Lower Miss River Mile 55	4	0	0%	0%	0	0%	0%
Gulf	Lower Miss River Mile 61	20	0	0%	0%	0	0%	0%
Gulf	Lower Miss River Mile 72	5	0	0%	0%	0	0%	0%
Great Lakes	Ludington Harbor, MI	22	0	0%	0%	0	0%	0%
Great Lakes	Manistee Harbor, MI	5	0	0%	0%	0	0%	0%
Atlantic	Marcus Hook, PA	11	0	0%	0%	0	0%	0%
Great Lakes	Marysville, MI	14	0	0%	0%	0	0%	0%
Gulf	Matagorda Ship Channel, TX	4	0	0%	0%	0	0%	0%
Atlantic	Mayaguez Hbr, PR	36	0	0%	0%	0	0%	0%
Atlantic	Miami Harbor, FL	795	0	0%	0%	0	0%	0%
Atlantic	Miami River, FL	1,345	117	8.70%	61.26%	117	8.70%	57.64%
Gulf	Michoud Canal, LA	2	0	0%	0%	0	0%	0%
Great Lakes	Milwaukee, WI	26	0	0%	0%	0	0%	0%

Appendix C-5B
Analysis of All Other Vessel Constraints, 2010

Coast Name	Port Name/Location Name	Number of calls	Constrained Calls with Projects	Percent of Calls Constrained	Percent of Total Constrained Calls	Constrained Calls without Projects	Percent of Calls Constrained	Percent of Total Constrained Calls
Gulf	Mobile Harbor AL	67	0	0%	0%	0	0%	0%
Gulf	Mobile Harbor, AL Chickasaw Creek	7	0	0%	0%	0	0%	0%
Great Lakes	Monroe Harbor, MI	17	0	0%	0%	0	0%	0%
Atlantic	Morehead City Hbr, NC	10	0	0%	0%	0	0%	0%
Atlantic	Morrisville, PA	2	0	0%	0%	0	0%	0%
Great Lakes	Muskegon Harbor, MI	18	0	0%	0%	0	0%	0%
Atlantic	New Bedford & Fairhaven Hbr, MA	53	0	0%	0%	0	0%	0%
Atlantic	New Haven, CT Main Harbor	27	0	0%	0%	0	0%	0%
Gulf	New Orleans, LA, Miles 88 Thru 106	288	0	0%	0%	0	0%	0%
Atlantic	New York & New Jersey Channels Piles Creek/to Kill Van Kull Exc Channels South/of Shooters Island	185	0	0%	0%	0	0%	0%
Atlantic	New York & New Jersey Channels Smith Creek To Piles Creek NJ	2	0	0%	0%	0	0%	0%
Atlantic	Newark Bay NJ Port Newark Branch Channel	8	0	0%	0%	0	0%	0%
Atlantic	Newark Bay NJ-port Elizabeth Branch Channel	38	0	0%	0%	0	0%	0%
Atlantic	Newport News , VA	31	0	0%	0%	0	0%	0%
Pacific	Nikishki, AK	16	0	0%	0%	0	0%	0%
Atlantic	Norfolk Harbor, VA Portsmouth VA	62	0	0%	0%	0	0%	0%
Atlantic	Norfolk Hbr, VA Eastern Br Eliz R	6	0	0%	0%	0	0%	0%
Atlantic	Norfolk Hbr, VA Southern Br Eliz R	13	0	0%	0%	0	0%	0%
Atlantic	Northeast, Cape Fear River NC	16	0	0%	0%	0	0%	0%

Appendix C-5B
Analysis of All Other Vessel Constraints, 2010

Coast Name	Port Name/Location Name	Number of calls	Constrained Calls with Projects	Percent of Calls Constrained	Percent of Total Constrained Calls	Constrained Calls without Projects	Percent of Calls Constrained	Percent of Total Constrained Calls
Pacific	Oakland Harbor, CA Codes 000-380, 400-835, & 840-999	6	0	0%	0%	0	0%	0%
Pacific	Olympia Harbor, WA	7	0	0%	0%	0	0%	0%
Pacific	Oregon Slough Oregon And Bay, OR	13	0	0%	0%	0	0%	0%
Great Lakes	Oswego Harbor, NY	8	0	0%	0%	0	0%	0%
Atlantic	Palm Beach Harbor, FL	209	0	0%	0%	0	0%	0%
Gulf	Panama City Harbor, FL	59	0	0%	0%	0	0%	0%
Gulf	Pascagoula Hbr, MS	107	0	0%	0%	0	0%	0%
Atlantic	Paulsboro, NJ	4	0	0%	0%	0	0%	0%
Atlantic	Penobscot River, ME	5	0	0%	0%	0	0%	0%
Gulf	Pensacola Hbr, FL	98	0	0%	0%	0	0%	0%
Atlantic	Petty Island NJ	5	0	0%	0%	0	0%	0%
Atlantic	Philadelphia, PA On Delaware River/Allegheny Ave To Poquessing Creek	262	0	0%	0%	0	0%	0%
Atlantic	Piscataqua River, NH	30	0	0%	0%	0	0%	0%
Pacific	Pittsburg, CA	3	0	0%	0%	0	0%	0%
Atlantic	Plymouth Harbor, MA	5	2	40.00%	1.05%	2	40.00%	0.99%
Atlantic	Ponce Harbor, PR	48	0	0%	0%	0	0%	0%
Pacific	Port Angeles Harbor, WA	134	0	0%	0%	0	0%	0%
Gulf	Port Arthur, TX	25	0	0%	0%	0	0%	0%
Atlantic	Port Everglades Hbr, FL	626	0	0%	0%	0	0%	0%
Pacific	Port Hueneme, CA	359	0	0%	0%	0	0%	0%
Gulf	Port Manatee, FL	235	0	0%	0%	0	0%	0%
Atlantic	Port Royal, SC	2	0	0%	0%	0	0%	0%

Appendix C-5B
Analysis of All Other Vessel Constraints, 2010

Coast Name	Port Name/Location Name	Number of calls	Constrained Calls with Projects	Percent of Calls Constrained	Percent of Total Constrained Calls	Constrained Calls without Projects	Percent of Calls Constrained	Percent of Total Constrained Calls
Atlantic	Portland Harbor, ME	81	0	0%	0%	0	0%	0%
Pacific	Portland, OR	162	0	0%	0%	0	0%	0%
Atlantic	Portsmouth Hbr, NH	11	0	0%	0%	0	0%	0%
Atlantic	Providence River and Harbor, RI	20	0	0%	0%	0	0%	0%
Pacific	Redwood City Hbr, CA	5	0	0%	0%	0	0%	0%
Pacific	Revillagigedo Channel	5	0	0%	0%	0	0%	0%
Pacific	Richmond Harbor, CA Outer Harbor, Codes 000-699	5	0	0%	0%	0	0%	0%
Gulf	Sabine, Pass Harbor, TX	16	0	0%	0%	0	0%	0%
Great Lakes	Saginaw, MI	7	0	0%	0%	0	0%	0%
Atlantic	Salem River, NJ	16	4	25.00%	2.09%	4	25.00%	1.97%
Pacific	San Diego Harbor, CA	571	0	0%	0%	0	0%	0%
Pacific	San Francisco Hbr, CA	6	0	0%	0%	0	0%	0%
Atlantic	San Juan Hbr, PR	1,270	0	0%	0%	0	0%	0%
Atlantic	Savannah Harbor, GA	109	0	0%	0%	0	0%	0%
Atlantic	Searsport Hbr, Me	40	0	0%	0%	0	0%	0%
Pacific	Seattle Harbor, WA Duwamish River	972	0	0%	0%	0	0%	0%
Pacific	Seattle Harbor, WA East Waterway	480	0	0%	0%	0	0%	0%
Pacific	Seattle Harbor, WA Elliott Bay	105	0	0%	0%	0	0%	0%
Pacific	Seattle Harbor, WA Harbor Island	138	0	0%	0%	0	0%	0%
Pacific	Seattle Harbor, WA West	3	0	0%	0%	0	0%	0%

Appendix C-5B
Analysis of All Other Vessel Constraints, 2010

Coast Name	Port Name/Location Name	Number of calls	Constrained Calls with Projects	Percent of Calls Constrained	Percent of Total Constrained Calls	Constrained Calls without Projects	Percent of Calls Constrained	Percent of Total Constrained Calls
c	Waterway							
Pacific	Seward, AK	3	3	100%	1.57%	3	100%	1.48%
Pacific	Skagway Harbor, AK	25	0	0%	0%	0	0%	0%
Great Lakes	St Ignace, MI	2	0	0%	0%	0	0%	0%
Pacific	St., Paul Is., AK (Pribilof Island-coast)	2	0	0%	0%	0	0%	0%
Pacific	Steilacoom, WA	3	0	0%	0%	0	0%	0%
Great Lakes	Stoneport, MI	2	0	0%	0%	0	0%	0%
Great Lakes	Superior, WI	2	0	0%	0%	0	0%	0%
Pacific	Tacoma Harbor, WA	579	0	0%	0%	0	0%	0%
Pacific	Tacoma Harbor, WA Middle Waterway	79	0	0%	0%	0	0%	0%
Gulf	Tampa Harbor, FL	323	0	0%	0%	0	0%	0%
Gulf	Texas City, TX	5	0	0%	0%	0	0%	0%
Atlantic	Thru 04470 Philadelphia, PA On Delaware Rv/Hog Island To Allegheny Ave	638	0	0%	0%	0	0%	0%
Gulf	Thru 66540 Giww Galveston To Corpus Christi	33	0	0%	0%	0	0%	0%
Great Lakes	Thru 77647 Port Of Chicago Il/calumet Harbor, & River Il & In-south Chicago	48	0	0%	0%	0	0%	0%
Pacific	Togiak, AK (Bristol Bay)	3	0	0%	0%	0	0%	0%
Great Lakes	Toledo, OH	99	0	0%	0%	0	0%	0%
Pacific	Unak Bay & Island, AK/(Iliuliuk & Dutch Hbr.)	109	0	0%	0%	0	0%	0%
Atlantic	Upper Bay, NY Narrows To/Municipal Ferry Dock St Geo Si/exc Bay Ridge	22	0	0%	0%	0	0%	0%

Appendix C-5B
Analysis of All Other Vessel Constraints, 2010

Coast Name	Port Name/Location Name	Number of calls	Constrained Calls with Projects	Percent of Calls Constrained	Percent of Total Constrained Calls	Constrained Calls without Projects	Percent of Calls Constrained	Percent of Total Constrained Calls
	Red Hook & Buttermilk Channels							
Atlantic	Upper Bay, NY/Bayonne NJ To Claremont NJ/bay Ridge Flats And Bedloes Is	6	0	0%	0%	0	0%	0%
Pacific	Valdez, AK	7	0	0%	0%	0	0%	0%
Pacific	Vancouver, WA	6	0	0%	0%	0	0%	0%
Atlantic	Wando River, SC	3	0	0%	0%	0	0%	0%
Great Lakes	Waukegan, IL	7	0	0%	0%	0	0%	0%
Pacific	Wauna, OR	29	0	0%	0%	0	0%	0%
Pacific	Whittier, AK	56	0	0%	0%	0	0%	0%
Atlantic	Wilmington Harbor, NC	54	0	0%	0%	0	0%	0%

Appendix C-5C
Analysis of All Other Vessel Constraints, 2020

Coast Name	Port Name/Location Name	Number of calls	Constrained Calls with Projects	Percent of Calls Constrained	Percent of Total Constrained Calls	Constrained Calls without Projects	Percent of Calls Constrained	Percent of Total Constrained Calls
Pacific	Adak Island, AK (coast)	10	0	0%	0%	0	0%	0%
Atlantic	Albany, NY	18	0	0%	0%	0	0%	0%
Great Lakes	Alpena, MI	11	0	0%	0%	0	0%	0%
Pacific	Anacortes Harbor, WA	329	0	0%	0%	0	0%	0%
Pacific	Anchorage, AK	16	0	0%	0%	0	0%	0%
Atlantic	Arecibo Harbor, PR	4	0	0%	0%	0	0%	0%
Great Lakes	Ashtabula Harbor, OH	5	0	0%	0%	0	0%	0%
Pacific	Astoria, OR	3	0	0%	0%	0	0%	0%
Gulf	Atchafalaya R Morgan Cty To Gulf	2	0	0%	0%	0	0%	0%
Atlantic	Baltimore Hbr and Channels, MD	40	0	0%	0%	0	0%	0%
Gulf	Baton Rouge, LA Miles 226 Thru 235	4	0	0%	0%	0	0%	0%
Gulf	Bayou Casotte, MS	159	0	0%	0%	0	0%	0%
Gulf	Bayou La Batre, AL	52	52	100%	20.72%	52	100%	19.62%
Gulf	Beaumont, TX	55	0	0%	0%	0	0%	0%
Pacific	Bellingham Bay & Harbor, WA Main Channel	6	0	0%	0%	0	0%	0%
Pacific	Bellingham Bay & Harbor, WA/Squalicum Creek Waterway	4	0	0%	0%	0	0%	0%
Pacific	Bellingham Bay & Harbor, WA/Whatcom Creek Waterway	68	0	0%	0%	0	0%	0%
Atlantic	Boston MA Island End River	5	0	0%	0%	0	0%	0%
Atlantic	Boston, MA Chelsea River	3	0	0%	0%	0	0%	0%
Atlantic	Boston, MA Main Water Front	10	0	0%	0%	0	0%	0%

Appendix C-5C
Analysis of All Other Vessel Constraints, 2020

Coast Name	Port Name/Location Name	Number of calls	Constrained Calls with Projects	Percent of Calls Constrained	Percent of Total Constrained Calls	Constrained Calls without Projects	Percent of Calls Constrained	Percent of Total Constrained Calls
Atlantic	Boston, MA Mystic River	5	0	0%	0%	0	0%	0%
Atlantic	Bridgeport, CT Main Harbor	372	0	0%	0%	0	0%	0%
Gulf	Brownsville Ship Channel, TX	113	0	0%	0%	0	0%	0%
Atlantic	Brunswick Hbr, GA	91	0	0%	0%	14	15.38%	5.28%
Great Lakes	Buffalo Harbor, NY	5	0	0%	0%	0	0%	0%
Great Lakes	Burns Waterway Harbor, IN	7	0	0%	0%	0	0%	0%
Atlantic	Buttermilk Channel, NY	4	0	0%	0%	0	0%	0%
Gulf	Calcasieu River and Pass Lake Charles, LA	42	0	0%	0%	0	0%	0%
Atlantic	Camden, NJ	695	0	0%	0%	0	0%	0%
Atlantic	Canaveral Harbor, FL	1,339	0	0%	0%	0	0%	0%
Pacific	Carquinez Strait, CA	3	0	0%	0%	0	0%	0%
Atlantic	Cementon, NY	2	0	0%	0%	0	0%	0%
Atlantic	Charleston Cooper River, SC	51	0	0%	0%	0	0%	0%
Great Lakes	Charlevoix Michigan Ironton, MI	15	0	0%	0%	0	0%	0%
Atlantic	Chesapeake Bay Open Waters	19	0	0%	0%	0	0%	0%
Atlantic	Christina River Wilmington De	680	0	0%	0%	0	0%	0%
Great Lakes	Cleveland Harbor, OH	186	0	0%	0%	0	0%	0%
Great Lakes	Conneaut Harbor, OH	73	0	0%	0%	0	0%	0%
Pacific	Coos Bay, OR Inside Channel To/Millington, OR	22	0	0%	0%	0	0%	0%
Gulf	Corpus Christi, TX	48	0	0%	0%	0	0%	0%
Atlantic	Dania Cut Off Canal, FL	1,160	0	0%	0%	0	0%	0%

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Analysis of All Other Vessel Constraints, 2020

Coast Name	Port Name/Location Name	Number of calls	Constrained Calls with Projects	Percent of Calls Constrained	Percent of Total Constrained Calls	Constrained Calls without Projects	Percent of Calls Constrained	Percent of Total Constrained Calls
ic								
Atlant ic	Davisville, RI	3	0	0%	0%	0	0%	0%
Great Lakes	Dearborn MI See Rouge Riv/Rouge River MI Dearborn MI	130	0	0%	0%	0	0%	0%
Atlant ic	Delaware City, DE	13	0	0%	0%	0	0%	0%
Great Lakes	Detroit, MI	88	0	0%	0%	0	0%	0%
Great Lakes	Duluth, MN	30	0	0%	0%	0	0%	0%
Atlant ic	Eagle Point Westville, NJ	3	0	0%	0%	0	0%	0%
Gulf	East Pearl River, MS	514	9	1.75%	3.59%	9	1.75%	3.40%
Atlant ic	East River NY Upper NY Bay To USN Shipyard	7	0	0%	0%	0	0%	0%
Atlant ic	East River, NY/USN Shipyd, Excluding East Channel	3	0	0%	0%	0	0%	0%
Atlant ic	Eastport Hbr, ME	1,458	0	0%	0%	0	0%	0%
Great Lakes	Ecorse, MI	3	0	0%	0%	0	0%	0%
Atlant ic	Eddystone, PA	16	0	0%	0%	0	0%	0%
Great Lakes	Essexville, MI	3	0	0%	0%	0	0%	0%
Pacifi c	Everett Harbor, WA Outer Harbor	212	0	0%	0%	0	0%	0%
Atlant ic	Fajardo Hbr, PR	65	0	0%	0%	0	0%	0%
Atlant ic	Fall River Hbr, MA	3	0	0%	0%	0	0%	0%
Pacifi c	False, Pass, AK (coast)	5	0	0%	0%	0	0%	0%
Atlant ic	Fernandina, FL	210	0	0%	0%	0	0%	0%
Pacifi c	Ferndale, WA	195	0	0%	0%	0	0%	0%

Appendix C-5C
Analysis of All Other Vessel Constraints, 2020

Coast Name	Port Name/Location Name	Number of calls	Constrained Calls with Projects	Percent of Calls Constrained	Percent of Total Constrained Calls	Constrained Calls without Projects	Percent of Calls Constrained	Percent of Total Constrained Calls
Atlantic	Fort Pierce Hbr, FL	314	11	3.50%	4.38%	11	3.50%	4.15%
Gulf	Freeport Harbor, TX	45	0	0%	0%	0	0%	0%
Gulf	Galveston Channel, TX	345	0	0%	0%	0	0%	0%
Great Lakes	Gary, IN	2	0	0%	0%	0	0%	0%
Atlantic	Gloucester, NJ	610	0	0%	0%	0	0%	0%
Pacific	Grays Harbor, & Chehalis River Wa/North Aberdeen And North Channel	6	0	0%	0%	0	0%	0%
Pacific	Grays Hbr & Chehalis River, WA South Aberdeen	47	0	0%	0%	0	0%	0%
Pacific	Grays Hbr & Chehalis River, WA Westhaven	16	0	0%	0%	0	0%	0%
Atlantic	Guanica Hbr, PR	2	0	0%	0%	0	0%	0%
Atlantic	Guayanilla Hbr, PR	13	0	0%	0%	0	0%	0%
Gulf	Gulf Outlet Miles 70-73	11	0	0%	0%	0	0%	0%
Gulf	Gulf Via Tiger, Pass	5	0	0%	0%	0	0%	0%
Gulf	Gulfport Hbr & Ship Is Pass, MS	1,674	0	0%	0%	0	0%	0%
Pacific	Homer, AK	34	15	44.12%	5.98%	15	44.12%	5.66%
Pacific	Honolulu Hbr, Oahu, HI	141	0	0%	0%	0	0%	0%
Pacific	Hoonah, AK	4	4	100%	1.59%	4	100%	1.51%
Gulf	Houston Ship Channel, TX	800	0	0%	0%	0	0%	0%
Atlantic	Hudson River, NY & NJ Yonkers NY	6	0	0%	0%	0	0%	0%
Pacific	Humboldt Harbor, AK (coast)	4	4	100%	1.59%	4	100%	1.51%
Pacific	Humboldt Hbr & Bay, CA	19	0	0%	0%	0	0%	0%
Atlantic	Icw Port Everglades Harbor, Fl Miles 175 Thru 183	25	0	0%	0%	0	0%	0%
Atlantic	Icw, PALm Beach Harbor,	4	0	0%	0%	0	0%	0%

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Analysis of All Other Vessel Constraints, 2020

Coast Name	Port Name/Location Name	Number of calls	Constrained Calls with Projects	Percent of Calls Constrained	Percent of Total Constrained Calls	Constrained Calls without Projects	Percent of Calls Constrained	Percent of Total Constrained Calls
ic	Fl Miles 223 Thru 230							
Pacific	Icy Bay, AK	6	0	0%	0%	0	0%	0%
Great Lakes	Indiana Harbor Indiana East Chicago, IN	6	0	0%	0%	0	0%	0%
Gulf	Inner Harbor Navigation Canal, LA	91	0	0%	0%	0	0%	0%
Atlantic	Jacksonville Harbor, FL	399	0	0%	0%	0	0%	0%
Atlantic	James River & Port of Hopewell, VA	2	0	0%	0%	0	0%	0%
Atlantic	James River, VA	2	0	0%	0%	0	0%	0%
Atlantic	Jobos Hbr, PR	3	0	0%	0%	0	0%	0%
Pacific	Juneau Gastineau Channel, AK	115	0	0%	0%	0	0%	0%
Pacific	Kalama, WA	15	0	0%	0%	0	0%	0%
Pacific	Ketchikan, AK (Tongass Narrows)	10	6	60.00%	2.39%	6	60.00%	2.26%
Atlantic	Key West Hbr, FL	6	0	0%	0%	0	0%	0%
Pacific	Kivilina, AK (coast)	77	0	0%	0%	0	0%	0%
Pacific	Kodiak Island, AK (coast)	13	0	0%	0%	0	0%	0%
Great Lakes	Lake Calumet, IL	15	0	0%	0%	0	0%	0%
Pacific	Little Sandy River, OR	3	0	0%	0%	0	0%	0%
Pacific	Long Beach Harbor, CA	397	0	0%	0%	0	0%	0%
Pacific	Long Beach Outer Harbor, CA	87	0	0%	0%	0	0%	0%
Pacific	Longview (Mt. Coffin)	3	0	0%	0%	0	0%	0%
Pacific	Longview, WA	5	0	0%	0%	0	0%	0%
Great	Lorain Harbor, OH	3	0	0%	0%	0	0%	0%

Appendix C-5C
Analysis of All Other Vessel Constraints, 2020

Coast Name	Port Name/Location Name	Number of calls	Constrained Calls with Projects	Percent of Calls Constrained	Percent of Total Constrained Calls	Constrained Calls without Projects	Percent of Calls Constrained	Percent of Total Constrained Calls
Lakes Pacific	Los Angeles Harbor, CA	466	0	0%	0%	0	0%	0%
Atlantic	Lower Delaware Bay, DE	16	0	0%	0%	0	0%	0%
Gulf	Lower Miss River Mile 108	21	0	0%	0%	0	0%	0%
Gulf	Lower Miss River Mile 116	5	0	0%	0%	0	0%	0%
Gulf	Lower Miss River Mile 118	5	0	0%	0%	0	0%	0%
Gulf	Lower Miss River Mile 120	16	0	0%	0%	0	0%	0%
Gulf	Lower Miss River Mile 128	15	0	0%	0%	0	0%	0%
Gulf	Lower Miss River Mile 132	62	0	0%	0%	0	0%	0%
Gulf	Lower Miss River Mile 139	34	0	0%	0%	0	0%	0%
Gulf	Lower Miss River Mile 146	2	0	0%	0%	0	0%	0%
Gulf	Lower Miss River Mile 150	2	0	0%	0%	0	0%	0%
Gulf	Lower Miss River Mile 158	25	0	0%	0%	0	0%	0%
Gulf	Lower Miss River Mile 166	4	0	0%	0%	0	0%	0%
Gulf	Lower Miss River Mile 169	3	0	0%	0%	0	0%	0%
Gulf	Lower Miss River Mile 53	6	0	0%	0%	0	0%	0%
Gulf	Lower Miss River Mile 55	4	0	0%	0%	0	0%	0%
Gulf	Lower Miss River Mile 61	28	0	0%	0%	0	0%	0%
Gulf	Lower Miss River Mile 72	10	0	0%	0%	0	0%	0%
Great Lakes	Ludington Harbor, MI	35	0	0%	0%	0	0%	0%
Great Lakes	Manistee Harbor, MI	7	0	0%	0%	0	0%	0%
Atlantic	Marcus Hook, PA	11	0	0%	0%	0	0%	0%
Great Lakes	Marysville, MI	16	0	0%	0%	0	0%	0%
Gulf	Matagorda Ship Channel, TX	4	0	0%	0%	0	0%	0%
Atlantic	Mayaguez Hbr, PR	44	0	0%	0%	0	0%	0%
Atlantic	Miami Harbor, FL	1,070	0	0%	0%	0	0%	0%
Atlantic	Miami River, FL	1,702	136	7.99%	54.18%	136	7.99%	51.32%
Gulf	Michoud Canal, LA	2	0	0%	0%	0	0%	0%
Great Lakes	Milwaukee, WI	40	0	0%	0%	0	0%	0%

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Analysis of All Other Vessel Constraints, 2020

Coast Name	Port Name/Location Name	Number of calls	Constrained Calls with Projects	Percent of Calls Constrained	Percent of Total Constrained Calls	Constrained Calls without Projects	Percent of Calls Constrained	Percent of Total Constrained Calls
Lakes								
Gulf	Mobile Harbor AL	81	0	0%	0%	0	0%	0%
Gulf	Mobile Harbor, AL Chickasaw Creek	8	0	0%	0%	0	0%	0%
Great Lakes	Monroe Harbor, MI	21	0	0%	0%	0	0%	0%
Atlantic	Morehead City Hbr, NC	13	0	0%	0%	0	0%	0%
Atlantic	Morrisville, PA	2	0	0%	0%	0	0%	0%
Great Lakes	Muskegon Harbor, MI	26	0	0%	0%	0	0%	0%
Atlantic	New Bedford & Fairhaven Hbr, MA	58	0	0%	0%	0	0%	0%
Atlantic	New Haven, CT Main Harbor	48	0	0%	0%	0	0%	0%
Gulf	New Orleans, LA, Miles 88 Thru 106	392	0	0%	0%	0	0%	0%
Atlantic	New York & New Jersey Channels Piles Creek/to Kill Van Kull Exc Channels South/of Shooters Island	334	0	0%	0%	0	0%	0%
Atlantic	New York & New Jersey Channels Smith Creek To Piles Creek NJ	2	0	0%	0%	0	0%	0%
Atlantic	Newark Bay NJ Port Newark Branch Channel	11	0	0%	0%	0	0%	0%
Atlantic	Newark Bay NJ-port Elizabeth Branch Channel	56	0	0%	0%	0	0%	0%
Atlantic	Newport News , VA	47	0	0%	0%	0	0%	0%
Pacific	Nikishki, AK	27	0	0%	0%	0	0%	0%
Atlantic	Norfolk Harbor, VA Portsmouth VA	83	0	0%	0%	0	0%	0%
Atlantic	Norfolk Hbr, VA Eastern Br Eliz R	9	0	0%	0%	0	0%	0%
Atlantic	Norfolk Hbr, VA Southern Br Eliz R	21	0	0%	0%	0	0%	0%
Atlantic	Northeast, Cape Fear River	16	0	0%	0%	0	0%	0%

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Analysis of All Other Vessel Constraints, 2020

Coast Name	Port Name/Location Name	Number of calls	Constrained Calls with Projects	Percent of Calls Constrained	Percent of Total Constrained Calls	Constrained Calls without Projects	Percent of Calls Constrained	Percent of Total Constrained Calls
ic	NC							
Pacific	Oakland Harbor, CA Codes 000-380, 400-835, & 840-999	11	0	0%	0%	0	0%	0%
Pacific	Olympia Harbor, WA	8	0	0%	0%	0	0%	0%
Pacific	Oregon Slough Oregon And Bay, OR	15	0	0%	0%	0	0%	0%
Great Lakes	Oswego Harbor, NY	10	0	0%	0%	0	0%	0%
Atlantic	Palm Beach Harbor, FL	304	0	0%	0%	0	0%	0%
Gulf	Panama City Harbor, FL	68	0	0%	0%	0	0%	0%
Gulf	Pascagoula Hbr, MS	129	0	0%	0%	0	0%	0%
Atlantic	Paulsboro, NJ	5	0	0%	0%	0	0%	0%
Atlantic	Penobscot River, ME	6	0	0%	0%	0	0%	0%
Gulf	Pensacola Hbr, FL	121	0	0%	0%	0	0%	0%
Atlantic	Petty Island NJ	5	0	0%	0%	0	0%	0%
Atlantic	Philadelphia, PA On Delaware River/Allegheny Ave To Poquessing Creek	518	0	0%	0%	0	0%	0%
Atlantic	Piscataqua River, NH	41	0	0%	0%	0	0%	0%
Pacific	Pittsburg, CA	3	0	0%	0%	0	0%	0%
Atlantic	Plymouth Harbor, MA	6	2	33.33%	0.80%	2	33.33%	0.75%
Atlantic	Ponce Harbor, PR	62	0	0%	0%	0	0%	0%
Pacific	Port Angeles Harbor, WA	161	0	0%	0%	0	0%	0%
Gulf	Port Arthur, TX	32	0	0%	0%	0	0%	0%
Atlantic	Port Everglades Hbr, FL	900	0	0%	0%	0	0%	0%
Pacific	Port Hueneme, CA	674	0	0%	0%	0	0%	0%
Gulf	Port Manatee, FL	419	0	0%	0%	0	0%	0%

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Analysis of All Other Vessel Constraints, 2020

Coast Name	Port Name/Location Name	Number of calls	Constrained Calls with Projects	Percent of Calls Constrained	Percent of Total Constrained Calls	Constrained Calls without Projects	Percent of Calls Constrained	Percent of Total Constrained Calls
Atlantic	Port Royal, SC	3	0	0%	0%	0	0%	0%
Atlantic	Portland Harbor, ME	90	0	0%	0%	0	0%	0%
Pacific	Portland, OR	199	0	0%	0%	0	0%	0%
Atlantic	Portsmouth Hbr, NH	17	0	0%	0%	0	0%	0%
Atlantic	Providence River and Harbor, RI	24	0	0%	0%	0	0%	0%
Pacific	Redwood City Hbr, CA	7	0	0%	0%	0	0%	0%
Pacific	Revillagigedo Channel	5	0	0%	0%	0	0%	0%
Pacific	Richmond Harbor, CA Outer Harbor, Codes 000-699	6	0	0%	0%	0	0%	0%
Gulf	Sabine, Pass Harbor, TX	26	0	0%	0%	0	0%	0%
Great Lakes	Saginaw, MI	8	0	0%	0%	0	0%	0%
Atlantic	Salem River, NJ	27	8	29.63%	3.19%	8	29.63%	3.02%
Pacific	San Diego Harbor, CA	968	0	0%	0%	0	0%	0%
Pacific	San Francisco Hbr, CA	10	0	0%	0%	0	0%	0%
Atlantic	San Juan Hbr, PR	1,702	0	0%	0%	0	0%	0%
Atlantic	Savannah Harbor, GA	133	0	0%	0%	0	0%	0%
Atlantic	Searsport Hbr, Me	50	0	0%	0%	0	0%	0%
Pacific	Seattle Harbor, WA Duwamish River	1,276	0	0%	0%	0	0%	0%
Pacific	Seattle Harbor, WA East Waterway	627	0	0%	0%	0	0%	0%
Pacific	Seattle Harbor, WA Elliott Bay	180	0	0%	0%	0	0%	0%
Pacific	Seattle Harbor, WA Harbor Island	171	0	0%	0%	0	0%	0%

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Analysis of All Other Vessel Constraints, 2020

Coast Name	Port Name/Location Name	Number of calls	Constrained Calls with Projects	Percent of Calls Constrained	Percent of Total Constrained Calls	Constrained Calls without Projects	Percent of Calls Constrained	Percent of Total Constrained Calls
Pacific	Seattle Harbor, WA West Waterway	4	0	0%	0%	0	0%	0%
Pacific	Seward, AK	4	4	100%	1.59%	4	100%	1.51%
Pacific	Skagway Harbor, AK	44	0	0%	0%	0	0%	0%
Great Lakes	St Ignace, MI	3	0	0%	0%	0	0%	0%
Pacific	St., Paul Is., AK (Pribilof Island-coast)	2	0	0%	0%	0	0%	0%
Pacific	Steilacoom, WA	5	0	0%	0%	0	0%	0%
Great Lakes	Stoneport, MI	3	0	0%	0%	0	0%	0%
Great Lakes	Superior, WI	2	0	0%	0%	0	0%	0%
Pacific	Tacoma Harbor, WA	865	0	0%	0%	0	0%	0%
Pacific	Tacoma Harbor, WA Middle Waterway	122	0	0%	0%	0	0%	0%
Gulf	Tampa Harbor, FL	456	0	0%	0%	0	0%	0%
Gulf	Texas City, TX	6	0	0%	0%	0	0%	0%
Atlantic	Thru 04470 Philadelphia, PA On Delaware Rv/Hog Island To Allegheny Ave	1,146	0	0%	0%	0	0%	0%
Gulf	Thru 66540 Giww Galveston To Corpus Christi	58	0	0%	0%	0	0%	0%
Great Lakes	Thru 77647 Port Of Chicago Il/calumet Harbor, & River Il & In-south Chicago	59	0	0%	0%	0	0%	0%
Pacific	Togiak, AK (Bristol Bay)	4	0	0%	0%	0	0%	0%
Great Lakes	Toledo, OH	132	0	0%	0%	0	0%	0%
Pacific	Unak Bay & Island, AK/(Iliuliuk & Dutch Hbr.)	176	0	0%	0%	0	0%	0%
Atlantic	Upper Bay, NY Narrows To/Municipal Ferry Dock	35	0	0%	0%	0	0%	0%

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Analysis of All Other Vessel Constraints, 2020

Coast Name	Port Name/Location Name	Number of calls	Constrained Calls with Projects	Percent of Calls Constrained	Percent of Total Constrained Calls	Constrained Calls without Projects	Percent of Calls Constrained	Percent of Total Constrained Calls
	St Geo Si/exc Bay Ridge Red Hook & Buttermilk Channels							
Atlantic	Upper Bay, NY/Bayonne NJ To Claremont NJ/bay Ridge Flats And Bedloes Is	10	0	0%	0%	0	0%	0%
Pacific	Valdez, AK	13	0	0%	0%	0	0%	0%
Pacific	Vancouver, WA	9	0	0%	0%	0	0%	0%
Atlantic	Wando River, SC	5	0	0%	0%	0	0%	0%
Great Lakes	Waukegan, IL	11	0	0%	0%	0	0%	0%
Pacific	Wauna, OR	35	0	0%	0%	0	0%	0%
Pacific	Whittier, AK	61	0	0%	0%	0	0%	0%
Atlantic	Wilmington Harbor, NC	102	0	0%	0%	0	0%	0%

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